DOCUMENTS REGISTRES - R. RICKEL

FNR.
89-1570

COST $ _____
PAID BY PLF DEF

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF OKLAHOMA

TK-7 CORPORATION, TAL TECHNOLOGIES, AND MOSHE TAL	:	
VS	:	C.A. NO. CIV-89-1264-P
IHSAN BARBOUTI, HAIDAR BARBOUTI, IBI, INC., A NEW YORK CORPORATION, IBI HOLDING, INCORPORATED, A DELAWARE CORPORATION AND 1600 PACIFIC AVE. CORP., A DELAWARE CORPORATION	:	

DEPOSITION OF:

ARTHUR J. VALENTZ

AUGUST 24, 1989

VOLUME I

COPY

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Q. (BY MR. JOHNSTON:) Did he ever tell you that he wanted to acquire TK-7 on behalf of Libya?

A. No.

Q. Or his acquisition of TK-7 in some regard had anything to do with Libya?

A. Repeat that.

Q. Okay. During the spring of 1987 when he was meeting with Moshe Tal in Oklahoma, had Dr. Barbouti said anything to you or to Mr. Tal in your presence about wanting to acquire TK-7 for any reason connected with the nation Libya?

A. I got the impression that he had some oil concessions coming from Libya, and so I assumed that the two were intertwined somehow.

Q. Okay. You didn't have any specifics at that point how TK-7 tied to Libya, though?

A. No.

Q. Nor did Mr. Tal, to your knowledge?

A. No.

Q. Now, you mentioned while ago that there was a second meeting with Dr. Barbouti and Moshe Tal. Can you tell us when and where that occurred?

A. This was probably the last meeting I had with Moshe Tal --

Q. All right.

89-1264

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FOR THE WESTERN DISTRICT OF OKLAHOMA

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DEPOSITION OF:

ARTHUR J. VALENTZ

AUGUST 25, 1989

VOLUME II

COPY

International Court Reporters, Inc.

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FORM NO. 10814

Libya, as to what he had and what he wanted done.

Q. All right.

Q. I didn't mean to suggest you talked to him daily about it. When was the next time?

A. He was very impatient about finding and buying an oil company here in the United States. He gave me perimeters to work under. He said there was a certain dollar amount he would spend and that was it. He wanted no more or very minimal staff. He would staff it himself, and got very impatient when I didn't come up with the type of things he wanted. So he set other people in motion unbeknownst to me to help him do that.

Q. What was the connection between him wanting you to find this oil company and Libya or Gaddafi?

A. I was under the impression that -- these are his words. He said that he could somehow mix the two oils -- you know, whether it be oil from this oil company or wherever and help that oil lose its identity, the concessions he had from Libya.

Q. All right. It's in that connection that he told you about some 200,000-barrel concession for Libya?

A. Yes, very impatient with me because I couldn't seem to come up with the right thing.

Q. Did he only mention that 200,000-barrel concession to you once?

ARTICLES OF INCORPORATION

OF

CONDWANA GEOCONSULTANTS INTERNATIONAL, INC.

ARTICLE ONE

The name of the Corporation is GONDWANA GEOCONSULTANTS INTERNATIONAL, INC.

ARTICLE TWO

The period of its duration is perpetual.

ARTICLE THREE

The purpose for which the Corporation is organized is the transaction of any and all lawful business for which a corporation may be incorporated under the Texas Business Corporation Act.

ARTICLE FOUR

The aggregate number of shares which the Corporation shall have authority to issue is One Hundred Thousand (100,000). The shares shall have a par value of One Dollar.

ARTICLE FIVE

The Corporation will not commence business until it has received consideration equal to or exceeding the value of $1,000.00, consisting of money, labor done, or property actually received, for the issuance of its shares.

ARTICLE SIX

The street address of its initial Registered Office, and the name of its initial Registered Agent at this address is as follows:

Harrell Gordon Tillman
2425 West Loop South, Suite 700
Houston, Texas 77027

ARTICLE SEVEN

The number of initial Directors is three (3). The names and addresses of the initial Directors are:

Harrell Gordon Tillman
2425 West Loop South, Suite 700
Houston, Texas 77027

M. Esam Ibrahim
2425 West Loop South, Suite 700
Houston, Texas 77027

Abdul Hamid Gamal
2425 West Loop South, Suite 700
Houston, Texas 77027

ARTICLE EIGHT

The name and address of the Incorporator is:

Renee Kiddney
712-A, East 26th Street
Austin, Texas 78705
(512) 474-2002

1- Secretary of State. Nov. 08 '86

Houston, Texas 77027

Abdul Hamid Gamal
2425 West Loop South, Suite 700
Houston, Texas 77027

ARTICLE EIGHT

The name and address of the Incorporator is:

Renee Kiddney
712-A, East 26th Street
Austin, Texas 78705
(512) 474-2002

Secretary of State
Nov. 07 '86

Eric H. Yerkovich

290 East Austin
Giddings, Texas 78942

ARTICLE XII.

The name and address of the incorporator of the Corporation is as follows:

Lance H. Farrell

28th Floor, 1100 Milam Street
Houston, Texas 77002

IN WITNESS WHEREOF, the undersigned, being the incorporator designated in Article XII, executes these Articles of Incorporation and certifies to the truth of the facts stated therein this 11th day of July, 1980.

LANCE H. FARRELL

THE STATE OF TEXAS §
§
COUNTY OF HARRIS §

I, Rinda Myers, a notary public, do hereby certify that on this 11th day of July, 1980, personally appeared before me, LANCE H. FARRELL, who being by me first duly sworn, declared that he is the person who signed the foregoing document as incorporator, and that the statements therein contained are true.

SUBSCRIBED AND SWORN TO before me, this 11th day of July, 1980.

NOTARY PUBLIC IN AND FOR
HARRIS COUNTY, T E X A S

RINDA MYERS
Notary Public in Harris County, Texas
My Commission Expires November 20, 1981

to serve as manager, consultant, representative, agent, broker or advisor for other persons, associations, corporations, partnerships and firms;

To enter into partnerships or into any arrangement for sharing of profits, union of interests, cooperation, joint venture, reciprocal concession or otherwise, with any persons, firm or corporation carrying on or engaged in or about to carry on or engage in any business or transaction which the Corporation is authorized to carry on or engage in;

To carry out the purposes above set forth in any state, territory, district or possession of the United States, or in any foreign country to the extent that such purposes are not forbidden by law of such state, territory, district or possession of the United States or by such foreign country; and

In general, to carry on any other business and do any other acts in connection with the foregoing and to have and exercise all powers conferred by the laws of the State of Texas upon corporations formed under the Texas Business Corporation Act, and to do any and all of the things hereinabove set forth to the same extent as natural persons might or could do.

ARTICLE IV

The aggregate number of shares which the Corporation shall have authority to issue is 100,000 shares of common stock, no par value.

ARTICLE V

The Corporation will not commence business until it has received for the issuance of its shares consideration of the value of not less than One Thousand Dollars ($1,000.00), consisting of money, labor done, or property actually received.

ARTICLE VI

The post office address of the Corporation's initial registered office is 4054 Tartan Lane, Houston, Texas 77025, and the name of its initial Registered Agent is Robin Murphy.

ARTICLE VII

The number of Directors constituting the initial Board of Directors are two, and the name and address of the person(s) who are to serve as Directors until the first annual meeting of the shareholders or until his successor is elected and qualified are:

NAME	ADDRESS
Phillip Deighton Connard	82 Glover Street Mosman 2088 Australia
Robin Murphy	4054 Tartan Lane Houston, Texas 77025

534.3749

The Board of Directors shall have the power to alter, amend, or repeal the By-Laws of the Corporation or to adopt new By-Laws.

ARTICLE VIII

The name and address of the Incorporator is:

NAME	ADDRESS
Kathy S. Hile	9800 Richmond, Suite 100 Houston, Texas 77042

550 6530

IN WITNESS WHEREOF, I have hereunto set my hand this 16th day of March, 1988.

Kathy S. Hile
KATHY S. HILE

/1015.001

12 February 1991

Documents and Summaries Related to Investigation of Ishan Barbouti, Southern Brokers International, Richard Secord and Associates in the Transfer of Technology to Iraq for the Enhancement of it's Military Industrial Complex.

Copy of Gondwana Contract and Related Documents.

Barbouti Initiates Activities on Behalf of Iraq

Sworn Deposition of Arthur Valentz and Related Documents principal

Barbouti Begins Seeking Out Companies With Attractive Technology Potentials And Procurement Offices Into U.S.

Accounts by Don Ward and Interview with Louis Champion. & prin research source

Barbouti hires Don Seaton As Consultant To Screen Potential Investment Opportunities

a. Seaton's Connection To Commerce Thru Louisiana Export Council

b. Seaton's Connection To Herman K. Beebe et al

3 round Investigation on Seaton and Info from other Interviews.

Background Investigation on Seaton and Info from three Interviews

Interview with Louis Champion. And Interviews with Larry Rogers principal sourced

Barbouti, Seaton and Louis Champion on Financing of Product Technologies, Inc. Plant.

a. Seaton has compiled listing of needed process equipment and prices provided by Larry Rogers of Equipment Removal and Search, Inc.

b. Seaton arranges introduction of Ishan Barbouti and Richard Secord thru Larry Rogers.

Interviews with Champion. & Rogers

Barbouti Seaton and Secord begin series of Meetings In Miami while Barbouti is there for Meetings on Construction of Product Technologies Plant

12 February 1991
Page 2 of 3

research source
ackground Investigation
f Callejas thru D. MacMichaels

ackground Investigation
f Callejas (CA Haroin)
research source

ocuments Search Thru
Ex Sec of State.

Barbouti is introduced to Alfonso Callejas by Secord for the purpose of connecting into SA.

a. Callejas Connections as Contra Leader
b. Callejas Connections to Senior U.S. Administration Officials
c. Callejas Connections as Treasurer of Southern Brokers International.

ackground Investigation
f Barbouti Secord
and Callejas

Barbouti directs agents and operatives of procurement network to Southern Brokers International.

a. Sabah al Fazalli Contacts SBI
b. Sabah al Fazalli Initiates Procurement of List of Military Equipment.

ersonal Files and Records
f Iraqi Activities '89

Customs Investigation of Iraqi Agents Procurement Activities is initiated.

a. Listing of Equipment is provided to U.S. Customs with ongoing activity summaries.
b. Southern Brokers International President Tony Haroin is notified of Investigation.

ersonal Files and Records
f Iraqi Activities 1989

Customs Investigation of Iraqi Agents Procurement Activities is called off.

ef Jack Moore
customs source

a. Influence of State and Commerce Department is exerted against Customs.
b. Procurement Activities are Redirected

f by Background on
rocurement of Radar
thru the Netherlands

12 February 1991
Page 3 of 3

Barbouti, Secord and Associates Proceed with Procurement Activities for Iraq.

2 Commerce and State Departments Continue to License Technology Transfer to Iraq

b. Commerce and State Departments Continue to Adversely Influence Investigations of Illegal Technology Transfer Activities.

Barbouti Secord and Associates Insure Covert Nature of Technology Transfer Activities by discrediting of individuals involved in investigations.

To be Compiled

2. Complete Listing of Barbouti Companies - Compile Corp Doc's
b. Complete Listing of Iraqi Front Companies - Compile Corp Doc's
c. Complete Listing of Commerce Licenced Iraqi Sales - Compile Corp
D. Complete Listing of BNL LOC's
E. Complete Listing of BCCI LOC's
F. Complete Summary of Activities Related to 199-41
Central Intelligence Agency Transcript
Gondwana Contract and Related Documents
Federal Bureau of Investigation File #199-41
Background File on Alfonso Callejas
Agriculture Documents 1990 & 1988

New York Telephone
A NYNEX Company

212 223-8300 687 BD30 17 OCT 4, 1987 AT&T-C PAGE 31

AT&T AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300	AREA-NUMBER CALLING CARD CALLS	RATE APPLIED	MIN	AMOUNT	T
1	SEP 26	202PM	TO UK	4415813027				
			FR OKLACY	OK 405 239-9908	OPER DISCOUNT	4	6.10	B
2	SEP 26	207PM	TO NEW YORK	NY 212 355-3000				
			FR OKLACY	OK 405 239-9908	OPER NIGHT	1	.96	B
3	SEP 26	208PM	TO NEW YORK	NY 212 223-8300				
			FR OKLACY	OK 405 239-9581	OPER/DL NIGHT	4	1.37	B
4	SEP 26	243PM	TO NEW YORK	NY 212 995-2502				
			FR OKLACY	OK 405 235-2780	" "	22	3.82	B
5	SEP 26	345PM	TO NEW YORK	NY 212 370-1966				
			FR OKLACY	OK 405 235-2780	" "	5	1.50	B
6	SEP 26	903PM	TO NEW YORK	NY 212 995-2502				
			FR OKLACY	OK 405 685-9491	" "	4	1.57	B
7	SEP 27	119PM	TO NEWORLEANS	LA 504 891-2700				
			FR OKLACY	OK 405 686-9100	" "	2	1.09	B

CONTINUED

T-TAX RATE APPLIED: B- 3.00%

New York Telephone
A NYNEX Company

212 223-8300 687 BD30 17 NOV 4, 1987 AT&T-C PAGE 19

AT&T AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8301		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	OCT 13	546PM	TO MONTREAL	PQ	514 733-3251	DIALED DAY	20	9.54	B
2	OCT 14	514PM	TO OKLA CITY	OK	405 239-2212	" "	4	1.22	B
3	OCT 14	421PM	TO DALLAS	TX	214 750-4304	" "	1	.35	B
4	OCT 15	1213PM	TO OKLA CITY	OK	405 239-2212	" "	1	.35	B
5	OCT 15	742PM	TO MAYFAIR	MI	313 626-4786	DIALED EVENING	1	.21	B
6	OCT 16	1042AM	TO DALLAS	TX	214 855-5335	DIALED DAY	9	2.67	B
7	OCT 16	1119AM	TO UK		4412252711	DIAL STANDARD	2	2.64	B
8	OCT 16	1122AM	TO UK		4412252711	" "	6	6.60	B
9	OCT 16	1227PM	TO DETROIT	MI	313 962-0800	DIALED DAY	1	.34	B
10	OCT 16	1230PM	TO DETROIT	MI	313 291-2800	" "	1	.34	B
11	OCT 16	328PM	TO SOUTHFIELD	MI	313 353-0840	" "	1	.34	B
12	OCT 19	1059AM	TO SOUTHFIELD	MI	313 353-0840	" "	1	.34	B
13	OCT 19	438PM	TO DALLAS	TX	214 855-5335	" "	1	.35	B
14	OCT 20	104PM	TO DETROIT	MI	313 535-9830	" "	2	.65	B

CONTINUED

T-TAX RATE APPLIED: B- 3.00%

... OK 405 239-2212 " " STANDARD 15 2.73
5 5.41

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	OCT 12	941AM	TO NEWORLEANS	LA	504 891-2700	DIALED EVENING	1	.21	B
2	OCT 12	1029AM	TO CARNEGIE	PA	412 787-4901	" "	11	1.87	B
3	OCT 12	1037AM	TO CARNEGIE	PA	412 787-4901	" "	5	.86	B
4	OCT 12	1044AM	TO UK		4416032762	DIAL STANDARD	1	1.65	B
5	OCT 12	1102AM	TO BIRMINGHAM	MI	313 645-9300	DIALED EVENING	2	.39	B
6	OCT 12	349PM	TO SWITZERLND		4112515555	DIAL DISCOUNT	1	1.46	B
7	OCT 12	350PM	TO CARNEGIE	PA	412 787-4901	DIALED EVENING	2	.36	B
8	OCT 13	1118AM	TO CARNEGIE	PA	412 787-4901	DIALED DAY	5	.86	B
9	OCT 13	1123AM	TO SOUTHFIELD	MI	313 353-0840	" "	2	.63	B
10	OCT 13	1125AM	TO FINDLAY	OH	419 424-7542	" "	3	.92	B
11	OCT 13	119PM	TO NEWORLEANS	LA	504 891-2700	" "	1	.35	B
12	OCT 13	156PM	TO UK		4416032762	DIAL DISCOUNT	2	1.98	B
13	OCT 13	236PM	TO OKLA CITY	OK	405 239-2212	DIALED DAY	22	6.44	B
14	OCT 13	258PM	TO NEWORLEANS	LA	504 891-2700	" "	1	.35	B

CONTINUED

T-TAX RATE APPLIED: B- 3.00%

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	OCT 14	414PM	TO OKLA CITY	OK	405 239-2212	DIALED DAY	19	5.57	B
2	OCT 15	920AM	TO SPRING	TX	713 367-6046	" "	1	.35	B
3	OCT 15	925AM	TO UK		4417416162	DIAL STANDARD	2	2.64	B
4	OCT 15	950AM	TO PITTSBURGH	PA	412 553-3293	DIALED DAY	2	.59	B
5	OCT 15	952AM	TO PITTSBURGH	PA	412 553-3293	" "	2	.59	B
6	OCT 15	954AM	TO SOUTHFIELD	MI	313 424-8300	" "	4	1.21	B
7	OCT 15	959AM	TO BIRMINGHAM	MI	313 645-9300	" "	1	.34	B
8	OCT 15	1000AM	TO BIRMINGHAM	MI	313 645-9300	" "	4	1.21	B
9	OCT 15	1040AM	TO DETROIT	MI	313 535-9830	" "	3	.92	B
10	OCT 15	1056AM	TO OKLA CITY	OK	405 239-2212	" "	1	.35	B
11	OCT 15	1128AM	TO [illegible]		[illegible]	DIAL STANDARD	11	3.38	B
12	OCT 15	119PM	TO DALLAS	TX	214 855-5355	DIALED DAY	8	2.38	B
13	OCT 15	350PM	TO BLACKSBURG	VA	703 951-1045	" "	26	7.07	B
14	OCT 15	418PM	TO DALLAS	TX	214 750-4304	" "	1	.35	B

CONTINUED

T-TAX RATE APPLIED: B- 3.00%

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	OCT 15	440PM	TO UK		4415813027	DIAL DISCOUNT	9	7.23	B
2	OCT 15	545PM	TO GER FED RP		49615180041	" "	13	11.50	B
3	OCT 15	636PM	TO OKLA CITY	OK	405 239-2212	DIALED EVENING	20	3.63	B
4	OCT 15	721PM	TO OKLA CITY	OK	405 239-2212	" "	10	1.83	B
5	OCT 15	731PM	TO NEWORLEANS	LA	504 891-2700	" "	2	.39	B
[illegible]					405 239-2212	" "	15	2.73	B
						DIAL STANDARD	5	5.41	B

7	OCT	16	[illegible]	..	..					
8	OCT	16	1050AM	TO	NEWORLEANS	LA	[illegible]			
9	OCT	16	1053AM	TO	GER FED RP		4969294069	DIAL STANDARD	5	5.61
10	OCT	16	1100AM	TO	UK		4415813027	" "	1	.34
11	OCT	16	1109AM	TO	DETROIT	MI	313 537-4050	DIALED DAY	12	3.53
12	OCT	16	1110AM	TO	FINDLAY	OH	419 424-7542	" "	1	.35
13	OCT	16	1134AM	TO	NEWORLEANS	LA	504 586-3845	" "	1	.35
14	OCT	16	1135AM	TO	NEWORLEANS	LA	504 582-2425	" "		

Extended Page 4

CONTINUED

T-TAX RATE APPLIED: 8= 5.00%

212 223-8300 687 BD30 17 OCT 4, 1987 AT&T-C PAGE 14

AT&T

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	SEP 30	1044AM	TO DETROIT	MI	313 842-7530	DIALED DAY	3	.92	B
2	SEP 30	1048AM	TO PITTSBURGH	PA	412 353-3293	" "	11	.63	B
3	SEP 30	1049AM	TO BIRMINGHAM	MI	313 645-9300	" "	11	.63	B
4	SEP 30	1130AM	TO AUSTRIA		4322251580	DIAL STANDARD	11	1.94	B
5	SEP 30	1131AM	TO AUSTRIA		43222515180	" "	14	5.21	B
6	SEP 30	1135AM	TO NEWORLEANS	LA	504 582-2429	DIALED DAY	8	2.38	B
7	SEP 30	1146AM	TO AUSTRIA		43222515180	DIAL STANDARD	12	13.93	B
[redacted]									
10	SEP 30	1245PM	TO DETROIT	MI	313 293-0500	" "	1	.34	B
11	SEP 30	209PM	TO CARNEGIE	PA	412 787-4901	" "	6	2.37	B
12	SEP 30	213PM	TO JOHNSTOWN	PA	814 266-0303	" "	4	1.13	B
13	SEP 30	218PM	TO MANSFIELD	OH	419 747-3700	" "	5	1.31	B
14	SEP 30	221PM	TO CINCINNATI	OH	513 563-1139	" "	1	.34	B

T-TAX RATE APPLIED: B- 3.00%

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New York Telephone

212 223-8300 687 BD30 17 OCT 4, 1987 AT&T-C PAGE 16

AT&T

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	OCT 1	153PM	TO FINDLAY	OH	419 424-7542	DIALED DAY	2	.63	B
2	OCT 1	214PM	TO SOUTHFIELD	MI	313 350-8480	" "	1	.34	B
3	OCT 1	215PM	TO DETROIT	MI	313 842-7530	" "	3	.92	B
4	OCT 1	220PM	TO CARNEGIE	PA	412 787-4901	" "	4	1.13	B
5	OCT 1	257PM	TO BIRMINGHAM	MI	313 258-6300	" "	3	.92	B
6	OCT 1	300PM	TO SOUTHFIELD	MI	313 353-0840	" "	1	.34	B
7	OCT 1	309PM	TO DETROIT	MI	313 222-4895	" "	28	8.17	B
8	OCT 1	449PM	TO AUSTRIA		43222515180	DIAL DISCOUNT	2	2.28	B
9	OCT 2	1111AM	TO BIRMINGHAM	MI	313 645-9300	DIALED DAY	3	.92	B
10	OCT 2	1146AM	TO UK		4412252711	DIAL STANDARD	1	1.65	B
11	OCT 2	1147AM	TO UK		4415813027	" "	25	25.41	B
12	OCT 2	1212PM	TO AUSTRIA		43222515180	DIALED DAY	12	13.93	B
13	OCT 2	1252PM	TO SOUTHFIELD	MI	313 353-0840	" "	1	.34	B
14	OCT 2	125PM	TO OKLA CITY	OK	405 239-2212	" "	4	1.22	B

T-TAX RATE APPLIED: B- 3.00%

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New York Telephone

212 223-8300 687 BD30 17 OCT 4, 1987 AT&T-C PAGE 19

AT&T

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8301		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	SEP 21	1059AM	TO SWITZERLND		4112117272	DIAL STANDARD	1	1.94	B
2	SEP 22	1108AM	TO CARNEGIE	PA	412 787-4901	DIALED DAY	2	.59	B
3	SEP 22	1128AM	TO OKLA CITY	OK	405 239-2212	" "	1	.33	B
4	SEP 23	1024AM	TO DETROIT	MI	313 222-4895	" "	11	3.24	B
5	SEP 23	101PM	TO ADDISON	TX	214 991-1010	" "	2	.64	B
6	SEP 23	106PM	TO PITTSBURGH	PA	412 762-2000	" "	1	.32	B
7	SEP 23	150PM	TO DALLAS	TX	214 720-9600	" "	2	.64	B
8	SEP 23	408PM	TO NEWORLEANS	LA	504 586-1200	" "	1	.33	B
9	SEP 23	431PM	TO CARNEGIE	PA	412 787-4901	" "	1	.33	B
10	SEP 28	1116AM	TO UK		4412210114	DIAL STANDARD	2	2.64	B

12	SEP	30	1027AM	TO	LARKSDALE	PA	412	787-4901	"	"	2 .59 B
13	SEP	30	1035AM	TO	BIRMINGHAM	MI	313	258-6300	"	"	2 .63 B
14	SEP	30	1042AM	TO	IRVINE	CA	714	752-4000	"	"	2 .68 B

CONTINUED

Y-TAX RATE APPLIED: B- 5.00%

[redacted] CORPORATION [redacted]

[redacted] 223-8301 8821 8080 17 OCT 4, 1987 AT&T-C PAGE 28

AT&T AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE	TIME	CALLING NUMBER	PLACE	223-8301	AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	SEP	25	1208PM	TO IRVINE	CA	714 752-4000	DIALED DAY	2	.48	B
2	SEP	25	301PM	TO HARTFORD	CT	203 275-3187	" "	2	.54	B
3	SEP	25	503PM	TO PHILA	PA	215 569-5500	" "	6	1.46	B
4	SEP	25	615PM	TO BIRMINGHAM	MI	313 258-4300	" "	4	1.79	B
5	SEP	25	617PM	TO SOUTHFIELD	MI	313 356-9500	DIALED EVENING	1	.21	B
6	OCT	1	547PM	TO UK		441499161	DIAL DISCOUNT	3	2.73	B
7	OCT	1	556PM	TO UK		441499161	" "	11	8.73	B
8	OCT	1	454PM	TO SOUTHFIELD	MI	313 355-0840	*DIALED DAY	19	4.12	B
9	OCT	1	1147AM	TO SOUTHFIELD	MI	313 350-8480	" "	4	1.21	B
10	OCT	2	1152AM	TO DETROIT	MI	313 291-4100	" "	1	.34	B
11	OCT	2	1154AM	TO CANNEGIE	PA	412 787-4901	" "	2	.59	B
12	OCT	2	235PM	TO OKLA CITY	OK	405 239-2212	" "	3	.91	B
				TOTAL FOR 223-8301					72.16	

CONTINUED

INDICATORS: * MULTIPLE RATE
T-TAX RATE APPLIED: B- 5.00%

New York Telephone

212 223-8300 8821 8080 17 OCT 4, 1987 AT&T-C PAGE 29

AT&T AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE	TIME	CALLING NUMBER	PLACE	223-8300	AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
					CALLING CARD CALLS					
1	SEP	25	1204PM	TO NEW YORK		NY 212 223-8300				
				FR D FW IA		TX 214 456-8872	OPER/DL DAY	12	4.34	B
2	SEP	25	1212PM	TO NEW YORK		NY 212 223-8300				
				FR D FW IA		TX 214 456-8420	" "	2	1.44	B
3	SEP	25	1238PM	TO NEW YORK		NY 212 223-8300				
				FR D FW IA		TX 214 453-8681	" "	10	3.76	B
4	SEP	25	252PM	TO NEW YORK		NY 212 223-8300				
				FR D FW IA		TX 214 456-8423	" "	1	1.15	B
5	SEP	25	1134PM	TO NEW YORK		NY 212 976-1313				
				FR OKLACY		OK 405 235-2780	OPER/DL NIGHT	2	1.10	B
6	SEP	26	905AM	TO NEW YORK		NY 212 935-2502	" "	3	1.23	B
7	SEP	26	912AM	TO SWITZERLND		411470640				
				FR OKLACY		OK 405 239-9908	OPER STANDARD	3	6.62	B

CONTINUED

T-TAX RATE APPLIED: B- 5.00%

New York Telephone

212 223-8300 8821 8080 17 OCT 4, 1987 AT&T-C PAGE 32

AT&T AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE	TIME	CALLING NUMBER	PLACE	223-8300	AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
					CALLING CARD CALLS					
1	SEP	27	1218PM	TO NEW YORK		NY 212 355-3000				
				FR OKLACY		OK 405 486-9100	OPER/DL NIGHT	1	.96	B
2	SEP	27	237PM	TO NEW YORK		NY 212 355-3000				
				FR D FW IA		TX 214 453-9664	" "	1	.96	B
3	SEP	27	241PM	TO UK		441581 3027				
				FR D FW IA		TX 214 453-9664	OPER DISCOUNT	2	5.35	B
4	SEP	27	632PM	TO NEW YORK		NY 212 460-5407				
				FR NORLNS		LA 504 561-0500	OPER/DL EVE	2	1.19	B
5	SEP	27	634PM	TO NEW YORK		NY 212 935-2502				
				FR NORLNS		LA 504 561-0500	" "	4	1.77	B

7 SEP 28	751AM	TO SWITZERLND FR NORLNS	41121172 72 LA 504 522-3518	"	"	4	7.71 B

CONTINUED

T-TAX RATE APPLIED: B- 5.00%

NEW YORK TELEPHONE DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER CALLING CARD CALLS	RATE APPLIED	MIN	AMOUNT	T
1	SEP 22	405PM	TO NEW YORK	NY	212 223-8300				
			FR JER CY	NJ	201 653-9872	OPER/DL DAY	2	.91	B
2	SEP 23	646PM	TO NEW YORK	NY	212 460-5607				
			FR ROSLYN	NY	516 621-9547	" "	4	.81	A
3	SEP 27	116PM	TO LOCAL COIN		405 239-2212				
			FR OKLACY	OK	405 686-9100	" "	2	.60	A
			OK STATE TAX					.02	
4	SEP 29	221PM	TO SOUTHFIELD		313 350-8480				
			FR ROMLUS	MI	313 942-8977	OPER/DL DAY	1	.37	A
			MI STATE TAX					.01	
5	SEP 29	226PM	TO SOUTHFIELD		313 350-1114				
			FR ROMLUS	MI	313 942-8977	OPER/DL DAY	1	.37	A
			MI STATE TAX					.01	

✓ CONTINUED

T-TAX RATE APPLIED: A-11.25% B- 5.00%

New York Telephone

AT&T

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	SEP 21	1015AM	TO UK		4416032762	DIAL STANDARD	3	3.63	B
2	SEP 21	1054AM	TO UK		4414912511	" "	1	1.65	B
3	SEP 21	1113AM	TO UK		4412252711	" "	2	2.64	B
4	SEP 21	1126AM	TO SOUTHFIELD	MI	313 353-0840	DIALED DAY	1	.34	B
5	SEP 21	1136AM	TO DALLAS	TX	214 720-9637	" "	7	2.09	B
6	SEP 21	129PM	TO LANGHORNE	PA	215 757-4961	" "	5	1.23	B
7	SEP 21	155PM	TO CARNEGIE	PA	412 787-4901	" "	2	.59	B
8	SEP 21	305PM	TO UK		4416032762	DIAL DISCOUNT	2	1.98	B
9	SEP 21	418PM	TO DALLAS	TX	214 720-9637	DIALED DAY	5	1.51	B
10	SEP 22	924AM	TO OKLA CITY	OK	405 239-2212	" "	1	.35	B
11	SEP 22	925AM	TO MOORE	OK	405 691-2414	" "	12	3.54	B
12	SEP 22	937AM	TO CARNEGIE	PA	412 787-4901	" "	1	.32	B
13	SEP 22	1021AM	TO CARNEGIE	PA	412 787-4901	" "	6	1.67	B
14	SEP 22	1100AM	TO UK		4415813027	DIAL STANDARD	26	26.40	B

✓ CONTINUED

T-TAX RATE APPLIED: B- 5.00%

New York Telephone

AT&T

AT&T COMMUNICATIONS DETAILS OF ITEMIZED CALLS

NO	DATE CALLING	TIME NUMBER	PLACE 223-8300		AREA-NUMBER	RATE APPLIED	MIN	AMOUNT	T
1	SEP 25	409PM	TO OKLA CITY	OK	405 239-2212	DIALED DAY	2	.64	B
2	SEP 25	409PM	TO MOORE	OK	405 691-2414	" "	1	.35	B
3	SEP 25	412PM	TO DALLAS	TX	214 720-9600	" "	1	.35	B
4	SEP 26	1116AM	TO OKLA CITY	OK	405 235-2780	DIALED NIGHT	2	.30	B
5	SEP 26	1119AM	TO OKLA CITY	OK	405 239-2212	" "	8	1.11	B
6	SEP 26	1127AM	TO UK		4416032762	DIAL STANDARD	2	2.64	B
7	SEP 26	1241PM	TO UK		4415813027	" "	1	1.65	B
8	SEP 26	1245PM	TO OKLA CITY	OK	405 235-2780	DIALED NIGHT	2	.30	B
9	SEP 26	153PM	TO OKLA CITY	OK	405 235-2780	" "	2	.30	B
10	SEP 28	1043AM	TO UK		4414912511	DIAL STANDARD			B

16 SEP 28 1111AM	TO SOUTHFIELD MI	313 353-0840	"	"	4	1.21	B
13 SEP 28 1200PM	TO UK	4416032762	DIAL	STANDARD	1	1.65	B
14 SEP 28 1201PM	TO UK	4416038425	"	"	3	3.43	B

✓ CONTINUED

T-TAX RATE APPLIED: B- 5.00%

AT&T

Account Number: 212 223-8300 687
March 4, 1988

Itemized calls, continued

Directly dialed

No.	Date	Place called	Number called	Time	Rate	Min.	Amount
Calling number 223-8300							
1	FEB 09	BOSTON MA	617 247-9309	3 35 PM	DAY	7	$1.75
2	FEB 09	PITTSBURGH PA	412 381-3587	3 60 PM	DAY	1	.30
3	FEB 09	SOUTHFIELD MI	313 353-0840	4 47 PM	DAY	2	.56
4	FEB 09	BOSTON MA	617 353-0093	5 24 PM	EVE	1	.18
5	FEB 09	PITTSBURGH PA	412 381-3587	5 30 PM	EVE	1	.19
6	FEB 10	NEWORLEANS LA	504 891-2700	9 22 AM	DAY	1	.35
7	FEB 10	CONROE TX	409 273-2855	9 38 AM	DAY	1	.35
8	FEB 10	UK	4412252711	9 42 AM	DS	2	2.64
9	FEB 10	UK	4416813027	9 44 AM	DS	3	3.65
10	FEB 10	UK	4412252711	9 52 AM	DS	2	2.64
11	FEB 10	MIAMI FL	305 538-2887	9 58 AM	DAY	1	.35
12	FEB 10	DELRAY BCH FL	305 243-0550	9 67 AM	DAY	2	.60
13	FEB 10	MUSTANG OK	405 376-9629	10 11 AM	DAY	2	.60
14	FEB 10	PITTSBURGH PA	412 361-3587	10 55 AM	DAY	1	.30
15	FEB 10	GREECE	3016515912	11 23 AM	DS	2	3.39
16	FEB 10	BIRMINGHAM MI	313 645-9300	1 46 PM	DAY	2	.56
17	FEB 10	UK	4414987748	1 56 PM	DD	2	1.98
18	FEB 10	CARNEGIE PA	412 787-4901	2 32 PM	DAY	1	.50
19	FEB 10	ARGENTINA ✓	541403165	2 55 PM	DS	2	5.71
20	FEB 10	UK	4413868812	3 34 PM	DD	1	1.25
21	FEB 10	PITTSBURGH PA	412 762-8581	4 09 PM	DAY	2	.55
22	FEB 10	SOUTHFIELD MI	313 353-0840	4 12 PM	DAY	1	.31
23	FEB 10	BUFFALO NY	716 845-7056	4 13 PM	DAY	1	.40
24	FEB 10	NEWORLEANS LA	504 891-2700	4 15 PM	DAY	1	.55
25	FEB 10	SOUTHFIELD MI	313 353-6655	4 17 PM	DAY	3	.85
26	FEB 10	CARNEGIE PA	412 787-4901	4 20 PM	DAY	1	.30
27	FEB 10	MCLEAN VA	703 893-5341	4 35 PM	DAY	1	.24
28	FEB 10	BOSTON MA	617 353-0093	4 52 PM	DAY	1	.29
29	FEB 10	SOUTHFIELD MI	313 353-0840	5 50 PM	EVE	2	.57
30	FEB 11	BELLE MEAD NJ	201 281-0012	0 32 AM	DAY	3	.85
31	FEB 11	UK	4416033300	10 40 AM	DS	2	2.64
32	FEB 11	CHICAGO IL	312 435-4750	11 54 AM	DAY	1	.51

Rate: DS-Dial Standard DD-Dial Discount
T-Tax rate applied: A-11.25% B- 3.00%

AT&T

Account Number: 212 223-8300 087
March 4, 1988
Page 4

Itemized calls, continued

Directly dialed

No.	Date	Place called	Number called	Time	Rate	Min.	Amount
Calling number 223-8300							
1	FEB 11	UK	4412252377	12 05 PM	DS	1	$1.65
2	FEB 11	UK	4416032782	12 08 PM	DS	2	2.64
3	FEB 11	MCLEAN VA	703 883-5541	1 11 PM*	DAY	1	.29
4	FEB 11	NEWORLEANS LA	504 891-2700	1 19 PM	DAY	1	.33
5	FEB 11	SWITZERLND	411448931	1 21 PM	DD	2	2.28
6	FEB 11	ARGENTINA	541403646	1 24 PM	DS	3	4.82
7	FEB 11	BOSTON MA	617 353-0093	2 20 PM	DAY	1	.29
8	FEB 11	DELRAY BCH FL	305 243 0550	2 25 PM	DAY	6	1.68
9	FEB 11	UK	4415813027	2 35 PM	DD	3	2.73
10	FEB 11	SOUTHFIELD MI	313 353-0840	2 42 PM	DAY	1	.31
11	FEB 11	SOUTHFIELD MI	313 353-8655	2 48 PM	DAY	1	.31
12	FEB 11	SOUTHFIELD MI	313 353-0840	3 06 PM	DAY	1	.31
13	FEB 11	CARNEGIE PA	412 787-4901	3 07 PM	DAY	2	.55
14	FEB 11	FRANCE	33145046543	3 09 PM	DD	2	2.28
15	FEB 11	HONOLULU HI	808 524-8000	4 26 PM	DAY	1	.43
16	FEB 11	BALACYNWYD PA	215 667-8899	4 42 PM	DAY	9	1.97
17	FEB 11	DUMONT NJ	201 384-3343	4 59 PM	DAY	1	.26
18	FEB 11	RED BANK NJ	201 842-7437	5 41 PM	EVE	2	.30
19	FEB 11	HOUSTON TX	713 961-9000	6 33 PM	EVE	2	.39
20	FEB 11	MONTREAL PQ	514 737-9657	6 50 PM	EVE	5	1.61
21	FEB 11	DELRAY BCH FL	305 243-0550	7 00 PM	EVE	21	3.72
22	FEB 12	UK	4415813027	8 13 AM	DS	2	2.64
23	FEB 12	MCLEAN VA	703 883-5541	8 18 AM	DAY	1	.29
24	FEB 12	NEWORLEANS LA	504 891-2700	9 18 AM	DAY	1	.33
25	FEB 12	MUSTANG OK	405 376-9629	9 31 AM	DAY	1	.33
26	FEB 12	WHEATLAND OK	405 745-3492	9 34 AM	DAY	1	.33
27	FEB 12	NEWORLEANS LA	504 891-2700	9 42 AM	DAY	1	.33
28	FEB 12	WESTWOOD NJ	201 664-6767	9 45 AM	DAY	4	.77
29	FEB 12	SOUTHFIELD MI	313 353-0840	10 06 AM	DAY	4	1.12
30	FEB 12	CARNEGIE PA	412 787-4901	10 14 AM	DAY	9	2.30
31	FEB 12	SOUTHFIELD MI	313 353-8855	11 08 AM	DAY	1	.31
32	FEB 12	BIRMINGHAM MI	313 258-3576	11 44 AM	DAY	1	.31

Rate: DS-Dial Standard DD-Dial Discount
T-Tax rate applied: S- 3.00%

Itemized calls, continued

Directly dialed

No.	Date	Place called	Number called	Time	Rate	Min.	Amount
Calling number 223-8300							
1	MAR 15	GER FED RP	4960233366	9 13 AM	DS	1	61.94
2	MAR 15	LICHTENSTN	417561144	9 15 AM	DS	2	3.03
3	MAR 15	SPAIN	3432046974	9 16 AM	DS	1	1.94
4	MAR 15	SPAIN	3432046974	9 21 AM	DS	1	1.94
5	MAR 15	ARGENTINA	541403185	9 22 AM	DS	3	4.82
6	MAR 15	ARGENTINA	6419625059	9 25 AM	DS	1	2.60
7	MAR 15	NEWORLEANS LA	504 891-2700	9 29 AM	DAY	1	.33
8	MAR 15	WHEATLAND OK	405 745-3492	10 04 AM	DAY	1	.33
9	MAR 15	UK	4415813027	10 41 AM	DS	4	4.62
10	MAR 15	GER FED RP	4960233366	10 47 AM	DS	3	4.12
11	MAR 15	WHEATLAND OK	405 745-3492	10 54 AM	DAY	1	.33
12	MAR 15	WHEATLAND OK	405 745-3492	10 58 AM	DAY	1	.33
13	MAR 15	WASHINGTON DC	202 842-7148	11 58 AM	DAY	1	.29
14	MAR 15	LIVINGSTON NJ	201 533-7765	1 10 PM	DAY	1	.26
15	MAR 15	BOSTON MA	617 353-0093	3 07 PM	DAY	6	1.97
16	MAR 15	PITTSBURGH PA	412 381-3587	3 24 PM	DAY	19	4.80
17	MAR 15	NEWBRNSWCK NJ	201 846-6084	4 12 PM	DAY	1	.28
18	MAR 15	CHICAGO IL	312 855-5926	5 01 PM	EVE	2	.37
19	MAR 16	NEWORLEANS LA	504 891-2700	8 27 AM	DAY	16	5.38
20	MAR 16	UK	4415813027	8 44 AM	DS	3	3.63
21	MAR 16	WHEATLAND OK	405 745-3492	8 53 AM	DAY	1	.33
22	MAR 16	SWITZERLND	4112519001	10 04 AM	DS	1	1.94
23	MAR 16	BOSTON MA	617 247-9742	4 23 PM	DAY	4	1.47
24	MAR 16	PITTSBURGH PA	412 381-3587	4 46 PM	DAY	1	.30
25	MAR 17	FTLAUDERDL FL	305 525-4000	2 06 PM	DAY	2	.60
26	MAR 17	FTLAUDERDL FL	305 525-4000	2 08 PM	DAY	2	.60
27	MAR 17	PHILA PA	215 568-6805	2 45 PM	DAY	2	.58
28	MAR 17	BOSTON MA	617 353-0093	3 15 PM	DAY	11	2.69
29	MAR 17	BOSTON MA	617 353-0093	3 28 PM	DAY	4	1.01
30	MAR 18	BOSTON MA	617 353-0093	8 56 AM	DAY	1	.29
31	MAR 18	FTLAUDERDL FL	305 525-4000	5 03 PM	EVE	5	1.44
32	MAR 18	BOSTON MA	617 353-0093	5 12 PM	EVE	1	.18

Rate: DS-Dial Standard
T-Tax rate applied: S- 3.00%

AT&T

Account Number 212 223-8300 647 7
June 4, 1988
Page 4

Itemized calls, continued

Directly dialed

No.	Date	Place called	Number called	Time	Rate	Min.	Amount
	Calling number 223-8300						
1	MAY 17	UK	4414899161	12 48 PMB	DS	3	6
2	MAY 17	BOCA RATON FL	305 391-1000	1 40 PMB	DAY	1	.3
3	MAY 17	SOUTHFIELD MI	313 353-0840	2 47 PMB	DAY	3	.8
4	MAY 17	BIRMINGHAM MI	313 644-5410	2 53 PMB	DAY	4	1.1
5	MAY 17	SOUTHFIELD MI	313 353-0840	2 58 PMB	DAY	1	.3
6	MAY 17	SOUTHFIELD MI	313 353-0840	3 13 PMB	DAY	5	1.3
7	MAY 17	HOUSTON TX	713 952-1630	3 28 PMB	DAY	4	1.1
8	MAY 17	HOUSTON TX	713 952 1630	4 01 PMB	DAY	7	1 9
9	MAY 18	TAMPA FL	813 264-2932	8 18 AMB	DAY	4	1.1
10	MAY 18	CONROE TX	409 273-2955	9 28 AMB	DAY	3	.4
11	MAY 18	UK	4412252711	9 32 AML	DS	3	3.6
12	MAY 18	SWITZERLND	4112519080	8 30 AML	DS	1	.9
13	MAY 18	CONROE TX	409 273-2955	9 52 AMB	DAY	3	.8
14	MAY 18	HOUSTON TX	713 759-0131	11 34 AMB	DAY	2	.6
15	MAY 18	UK	4415813027	1 23 PML	DD	3	2
16	MAY 18	UK	4415813027	2 24 PML	DD	5	4 2.
17	MAY 18	UK	4415813027	2 43 PML	DD	8	6.4
18	MAY 18	ARGENTINA	541403165	2 56 PML	DS	1	2.6
19	MAY 18	HOUSTON TX	713 759-0131	3 05 PMB	DAY	1	3
20	MAY 18	NEWORLEANS LA	504 891-2700	3 16 PMB	DAY	10	2.7
21	MAY 18	NEWORLEANS LA	504 891-2700	3 27 PMB	DAY	7	1.9
22	MAY 18	PERU	5114404183	3 38 PM	DD	1	1.9
23	MAY 18	SOUTHFIELD MI	313 353-0840	3 41 PMB	DAY	5	1.3
24	MAY 18	MIAMI FL	305 538-2887	4 33 PMB	DAY	1	.3
25	MAY 18	HUNTITNBCH CA	714 840-8235	4 45 PMB	DAY	1	.3
26	MAY 18	HUNTITNBCH CA	714 840-8235	5 00 PMB	EVE	12	2.2
27	MAY 19	CONROE TX	409 273-2955	9 42 AMB	DAY	4	1.1
28	MAY 19	UK	4412252711	10 25 AML	DS	2	2.6
29	MAY 19	SPRING TX	713 350-8115	10 30 AMB	DAY	2	.4
30	MAY 19	MIAMI FL	305 538-2887	10 33 AMB	DAY	6	1 6
31	MAY 19	UK	4415813027	10 56 AML	DS	2	2.6
32	MAY 19	UK	4414930888	10 59 AML	DS	2	2.6
33	MAY 19	MIAMI FL	305 538-2887	11 09 AMB	DAY	1	3

Rate: DS-Dial Standard DD-Dial Discount
Indicators: B AT&T Pro SM America Calling Plan
T-Tax rate applied: B- 3.00%

AT&T

Account Number: 212 223-6300 557
April 4, 1989
Page 2

Itemized - IIIa. continued

Directly dialed

No.	Date	Place called	Number called	Time	Rate	Min.	Amount
	Calling number 223-6300						
1	MAR 09	NEWORLEANS LA	504 891-2700	2 46 PM	DAY	2	$.60 B
2	MAR 09	LIVINGSTON NJ	201 533-7765	2 54 PM	DAY	1	.26 B
3	MAR 09	NEWORLEANS LA	504 891-2700	3 06 PM	DAY	5	1.41 B
4	MAR 08	UK	4416033782	3 39 PM	DD	2	1.98 B
5	MAR 08	UK	4416038425	5 01 PM	DD	1	1.23 B
6	MAR 10	NEWORLEANS LA	504 891-2700	1 37 PM	DAY	1	.53 B
7	MAR 10	BIRMINGHAM MI	313 645-9300	3 58 PM	DAY	1	.31 B
8	MAR 10	BIRMINGHAM MI	313 645-9300	4 36 PM	DAY	1	.31 B
9	MAR 10	UK	4418426811	5 08 PM	DD	5	4.25 B
10	MAR 11	UK	4412252711	9 48 AM	DS	4	4.62 B

Monday, March 11, 1991
Washington Post

$1.5 Billion in U.S. Sales to Iraq

Technology Products Approved Up to Day Before Invasion

By Stuart Auerbach
Washington Post Staff Writer

The day before Iraq sent its troops pouring into Kuwait, the Bush administration approved the sale of $695,000 worth of advanced data transmission devices to the Iraqi government, according to U.S. government records.

The sale was just one item in $1.5 billion in advanced U.S. products that the Reagan and Bush administrations allowed Iraq to buy from 1985 to 1990.

In all, the U.S. government approved 771 sales of technology to Iraq that included advanced computers, radio equipment, graphics terminals that could be used to design rockets and analyze their flights, machine tools, computer mapping systems and imaging devices for reading satellite pictures, according to the records made available last week to the House Government Operations Subcommittee on commerce, consumer and monetary affairs.

Much of the technology was sold to key ministries of government, including the Defense Ministry, Interior Ministry and the Atomic Energy Commission, as well as universities and scientific institutions that were leveled by allied bombing for being part of Iraq's poison gas and nuclear weapons establishment and its industrial infrastructure, according to the Pentagon's war reports.

Some of the sales were not high-technology items, such as $45.4 million in personal helicopters for Iraqi President Saddam Hussein and other high-ranking Iraqi officials, according to the unclassified records, which were obtained by The Washington Post.

Other helicopters, worth $25 million, were bought for crop dusting. U.S. intelli-

See IRAQ SALES, A16, Col. 5

* *Stories related to the aftermath of the Persian Gulf War are in the World News section.*

U.S. Allowed Sale to Iraq For Saddam's Helicopter

IRAQ SALES, From A1

gence sources told the Los Angeles Times that some of the helicopters were used to spray poison gas on Kurdish civilians in 1988. The federal government also authorized the sale of 16 helicopters, worth $20 million, to the Iraqi Air Force for search and rescue operations.

Administration officials said the $1.5 billion in sales were approved first under a policy of the Reagan administration to help Iraq in its war with Iran. The policy was continued after that war ended in 1988 and picked up by President Bush when he took office in 1989 in an effort to try to encourage Saddam to be a more responsible member of the international community and lure him away from his traditional destabilizing role in Mideast politics.

Former President Ronald Reagan, in a Utah speech last month, admitted that "we committed aboner with regard to Iraq and our close relation with Iraq."

Secretary of State James A. Baker III told congressional committees considering the administration's apparent failure to move decisively against Iraq last spring, when Saddam first began assuming a more threatening posture, that it was wrong to lend out blame for past policies when the United States was building an international consensus to fight Saddam.

In his Jan. 29 response to Bush's State of the Union address, however, Senate Majority Leader George J. Mitchell (D-Maine) said: "When the war's over there is one lesson we must never forget: The dictator we help today may turn his weapons on us tomorrow. For 10 years, U.S. policy favored Iraq. We can't repeat that kind of mistake."

The sales also underscore the difficulty of trying to control the spread of technology to a country determined to get it. The Soviet Union was Iraq's main arms supplier and many of the computers and other high-tech items Iraq needed for its military and nuclear and chemical weapons programs were bought from other nations, particularly Germany and France.

In many cases, however, especially those involving advanced computers and computer accessories, the best is available only in the United States. Iraq often tried to obtain items clandestinely and through legal channels.

The policy of trying to influence a country's behavior by allowing it access to U.S. technology has failed in other countries, too. The Reagan and Bush administrations, for instance, allowed Pakistan to buy advanced F-16 jet fighters in hopes of persuading Islamabad that its clandestine nuclear program was unnecessary. Pakistan continued to try to build a bomb, U.S. analysts concluded, and last year Washington cut off military aid.

In the case of Iraq, the 155 pages of documents made available to the House subcommittee showed that in the 15 days preceding Iraq's Aug. 2 invasion of Kuwait, the Bush administration approved licenses for $4.8 million in advanced technology products.

On one day, July 27, the administration approved the sale of $2.4 million in computers. Almost $1.8 million of those computers were sold to an agency that had been renamed secretly two years earlier as the Ministry of Industry and Military Industrialization. It was headed by Brig. Gen. Hussein Kamel Hasan, a son-in-law of Saddam's. The licenses, though, were issued in the former name of the agency, the Ministry of Industry and Minerals.

"What it means is the administration had no problem with Iraq until the day after Saddam's troops walked into Kuwait," one administration official said.

For example, more than $1 million in computers, flight simulators and other technology products were licensed for sale in Sept. 16, an Iraqi research center north of Baghdad that was destroyed in the allied bombing because it was believed to be developing rockets and poison gas.

According to the records turned over to the House subcommittee, this and all other sales had the full concurrence of the Commerce, Defense, Energy and State Departments as well as an interagency committee, the Subgroup on Nuclear Export Controls (SNEC), that includes representatives of the intelligence community.

Interagency approvals for the sales were deleted from earlier documents provided to Congress on sales to Iraq, but the White House allowed the Commerce Department to include them in the records released last week.

Commerce officials said they tried to tighten U.S. policy on technology sales to Iraq after Saddam threatened to use poison gas on Israel last spring, but were rebuffed in interagency meetings by top officials of the State Department. "If they didn't change the policy, under law we couldn't tighten up the controls," one official said.

The Commerce Department is forbidden by law to release the names of the companies making the sales. But sources have reported they include some of the giants of American technology: Hewlett Packard Co., Scientific Atlanta Inc., Tektronix Inc., Wilcox Co., Hughes Aircraft Co., and the Bell Aerospace division of Textron Inc.

The items these and other companies provided covered a wide range of activities. The records showed that the Commerce, Defense and Energy departments and SNEC approved licensing the sale of $505,250 in computer equipment to go with special high-temperature furnaces that could be used in the manufacturing of nuclear weapons and missiles. Iraq said it was buying the furnaces and computer controls from Carbone Corp. to make artificial limbs for victims of the Iran-Iraq war, a possible legitimate use of the equipment, experts said.

The sale of the computing equipment was approved Jan. 31, 1990, after two months of review. The $1.1 million sale of the four furnaces was also approved, but shipment was stopped on the docks five days.

Although the bulk of the licensed U.S. sales to Iraq were computers and other advanced electronics, Iraqi purchases included $1.4 million in machine tools for "general military repairs," including jet engines and rocket cases, the documents showed. Another $2.3 million in sales of quartz crystals and electronic gear was approved for use in Iraq's radar defense net. More than $1.1 million in computers was approved for sale to a detergent manufacturing plant at Salt, in northcentral Iraq, which U.S. officials repeatedly bombed because it was the site of a chemical weapons factory.

The government also approved sales of $1.3 million in computers and imaging equipment to universities and the Defense Ministry to help Iraq get data from satellites and make better maps. It licensed the sale of $554,000 in computer equipment to improve Iraq's military command and control capability, a prime target of allied bombing raids, and $1.5 million in electronic gear to teach Iraqi officers every how to use computers.

The Iraqi appetite for U.S. computers went so far that the Al Forsan Club bought $35,000 worth of equipment for its system to oval horse racing bets, odds and payoffs.

EXHIBIT "B"

Monday, March 11, 1991
Washington Post

$1.5 Billion in U.S. Sales to Iraq

Technology Products Approved Up to Day Before Invasion

By Stuart Auerbach
Washington Post Staff Writer

The day before Iraq sent its troops pouring into Kuwait, the Bush administration approved the sale of $695,000 worth of advanced data transmission devices to the Iraqi government, according to U.S. government records.

The sale was just one item in $1.5 billion in advanced U.S. products that the Reagan and Bush administrations allowed Iraq to buy from 1985 to 1990.

In all, the U.S. government approved 771 sales of technology to Iraq that included advanced computers, radio equipment, graphics terminals that could be used to design rockets and analyze their flights, machine tools, computer mapping systems and imaging devices for reading satellite pictures, according to the records made available last week to the House Government Operations Subcommittee on commerce, consumer and monetary affairs.

Much of the technology was sold to key ministries of government, including the Defense Ministry, Interior Ministry and the Atomic Energy Commission, as well as universities and scientific institutions that were leveled by allied bombing for being part of Iraq's poison gas and nuclear weapons establishment and its industrial infrastructure, according to the Pentagon's war reports.

Some of the sales were not high-technology items, such as $45.4 million in personal helicopters for Iraqi President Saddam Hussein and other high-ranking Iraqi officials, according to the unclassified records, which were obtained by The Washington Post.

Other helicopters, worth $25 million, were bought for crop dusting. U.S. intelli-

See IRAQ SALES, A16, Col. 5

* *Stories related to the aftermath of the Persian Gulf War are in the World News section.*

U.S. Allowed Sa
For Saddam's H

IRAQ SALES, From A1

gence sources told the Los Angeles Times that some of the helicopters were used to spray poison gas on Kurdish civilians in 1988. The federal government also authorized the sale of 16 helicopters, worth $30 million, to the Iraqi Air Force for search and rescue operations.

Administration officials said the $1.5 billion in sales were approved first under a policy of the Reagan administration to help Iraq in its war with Iran. The policy was continued after that war ended in 1988 and picked up by President Bush when he took office in 1989 in an effort to try to encourage Saddam to be a more responsible member of the international community and lure him away from his traditional destabilizing role in Mideast politics.

Former President Ronald Reagan, in a Utah speech last month, admitted that "we committed a blunder with regard to Iraq and our close relation with Iraq."

Secretary of State James A. Baker III told congressional committees questioning the administration's apparent failure to move decisively against Iraq last spring, when Saddam first began assuming a more threatening posture, that it was wrong to lend out blame for past policies when the United States was building an international consensus to fight Saddam.

In his Jan. 29 response to Bush's State of the Union address, however, Senate Majority Leader George J. Mitchell (D-Maine) said: "When the war's over there is one lesson we must never forget: The dictator we help today may turn his weapons on us tomorrow. For 10 years, U.S. policy favored Iraq. We can't repeat that kind of mistake."

The sales also underscore the difficulty of trying to control the spread of technology to a country determined to get it. The Soviet Union was Iraq's main arms supplier and many of the computers and other high-tech items Iraq needed for its military and nuclear and chemical weapons programs were bought from other nations, particularly Germany and France.

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dating. U.S. intelli-
8, A16, Col. 5

World News section.

U.S. Allowed Sale to Iraq For Saddam's Helicopter

IRAQ SALES, From A1

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For example, more than $1 million in computers, flight simulators and other technology products were licensed for sale to Sand 16, an Iraqi research center north of Baghdad that was destroyed in the allied bombing because it was believed to be developing rockets and poison gas.

According to the records turned over to the House subcommittee, this and all other sales had the full concurrence of the Commerce, Defense, Energy and State Departments as well as an interagency committee, the Subgroup on Nuclear Export Controls (SNEC), that includes representatives of the intelligence community.

Interagency approvals for the sales were deleted from earlier documents provided to Congress on sales to Iraq, but the White House allowed the Commerce Department to include them in the records released last week.

Commerce officials said they tried to tighten U.S. policy on technology sales to Iraq after Saddam threatened to use poison gas on Israel last spring, but were rebuffed in interagency meetings by top officials of the State Department. "If they didn't change the policy, under law we couldn't tighten up the controls," one official said.

The Commerce Department is forbidden by law to release the names of the companies making the sales. But sources have reported they include some of the giants of American technology: Hewlett Packard Co., Scientific Atlanta Inc., Tektronix Inc., Wiltron Co., Hughes Aircraft Co., and the Bell Aerospace division of Textron Inc.

The items these and other companies provided covered a wide range of activities. The records showed that the Commerce, Defense and Energy departments and SNEC approved licensing the sale of $525,550 in computer equipment to go with special high-temperature furnaces that could be used in the manufacturing of nuclear weapons and missiles. Iraq said it was buying the furnaces and computer controls from Consare Corp. to make artificial limbs for victims of the Iraq-Iran war, a possible legitimate use of the equipment, experts said.

The sale of the computing equipment was approved Jan. 31, 1990, after two months of review. The $11 million sale of the four furnaces was al-

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...RS, A16, Col. 5

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The policy of trying to influence a country's behavior by allowing it access to U.S. technology has failed in other countries, too. The Reagan and Bush administrations, for instance, allowed Pakistan to buy advanced F-16 jet fighters in hopes of persuading Islamabad that its clandestine nuclear program was unnecessary. Pakistan continued to try to build a bomb, U.S. analysts concluded, and last year Washington cut off military aid.

In the case of Iraq, the 105 pages of documents made available to the House subcommittee showed that in the 15 days preceding Iraq's Aug. 2 invasion of Kuwait, the Bush administration approved licenses for $4.8 million in advanced technology products.

On one day, July 17, the administration approved the sale of $3.4 million in computers. Almost $2.8 million of those computers were sold to an agency that had been renamed secretly two years earlier as the Ministry of Industry and Military Industrialization. It was headed by Brig. Gen. Hussein Kamel Hasan, a son-in-law of Saddam's. The licenses, though, were issued in the former name of the agency, the Ministry of Industry and Minerals.

"What it means is the administration had no problem with Iraq until the day the records released last week.

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The items these and other companies provided covered a wide range of activities. The records showed that the Commerce, Defense and Energy departments and SNEC approved licensing the sale of $325,550 in computer equipment to go with special high-temperature furnaces that could be used in the manufacturing of nuclear weapons and missiles. Iraq said it was buying the furnaces and computer controls from Consarc Corp. to make artificial limbs for victims of the Iran-Iran war, a possible legitimate use of the equipment, experts said.

The sale of the computing equipment was approved Jan. 31, 1990, after two months of review. The $11 million sale of the four furnaces was also approved, but shipment was stopped on the docks last June.

Although the bulk of the licensed U.S. sales to Iraq were computers and other advanced electronics, Iraqi purchases included $1.4 million in machine tools for "general military repairs," including jet engines and rocket cases, the documents showed. Another $3.3 million in sales of quartz crystals and electronic gear was approved for use in Iraq's radar defense net. More than $1.1 million in computers was approved for sale to a detergent manufacturing plant at Balji, in north-central Iraq, which U.S. officials reportedly bombed because it was the site of a chemical weapons factory.

The government also approved sales of $1.3 million in computers and imaging equipment to universities and the Defense Ministry to help Iraq get data from satellites and make better maps. It licensed the sale of $554,000 in computer equipment to improve Iraq's military command and control capability, a prime target of allied bombing raids, and $1.5 million in electronic gear to teach Iraqi officer cadets how to use computers.

The Iraqi appetite for U.S. computers went so far that the Al Furusya Club bought $35,000 worth of equipment for its system to total horse racing bets, odds and payoffs.

EXHIBIT "B"

Working Document Resource Listing

1 Confidential Report - Prepared By Robert F. Bickel, Sr.
Strategic Tactical Follow Up Report
Iraqi Attempts To Secure
Computure, Electronic and Military Equipment
Operations 1st Quarter 1989

This document dated May 20, 1990 is a Summary and Review of an investigation initiated by U.S. Customs in the 1st Quarter of 1989 and called off by senior Customs officials at the insistance of the United States Departments of State and Commerce. Prepared as a review of the Field activities of the investigation in answer to requests by Houston Area Group Leader.

2. Confidential Report - Prepared by Robert F. Bickel, Sr.
Threat Assessment Potential For
Illegal and Covert Transfer
of Technology In The
Petro-Chemical Industrial Complex

This document dated 20 May 1990 is an initial assessment of Technology Transfer Potential From various segments of the oil and gas industry. It was prepared as a elemental review document for the use of an U. S. Customs Service Regional Co-ordinating Officer charged with establishing a ~~Texas~~ Technology Transfer Interdiction Program, area specific to the oil and gas industry.

2. Listing of Companies
Secure Sourc - Congressional level
Iraqi Front Companies

This listing of Companies is a grouping of organizations operating for the benefit of the Iraqi Government and are state owned or privitized proprietaries. A secondary element of the listing is made up of companies owned by Istvan Barbouti.

3 Drawings and Technical Specifications Audit
Department of the Army
Office of the Deputy Chief of Staff for Operations and Plans
Referencing Engineering Drawings Associated with the North Plant Area, Rocky Mountain Arsenal.

dated 7 August 1985

This document is the audit and evaluation of the security status of Declassified Engineering Drawings, Technical Specifications and Materials Requirements related to the North Plant Section of the Rocky Mountain Arsenal, Chemical and Biological Weapons. Significant is the statement contained in the document; " the compilation of all drawings would in effect provide terrorists or third world nations excruciating details on how to build an agent producing plant, sizing requirements, materials of construction, specialized equipment needed for the process and sufficient information to provide capacity scale up or scale down..."

3. Internal Communications Memo - FAS Analysts
United States Department of Agriculture
Foriegn Agricultural Service
Referencing GSM-102 For Iraq - New Credits and Allocations

This document dated 22 September 1988 is regarded as a protest memo prepared and signed by seven members of the Foriegn Agriculture Service staff related to the announcement of New Credits and Allocations of Iraqi Credit Guarantees provided under the Agriculture Department loan Guarantee Program.

4. Internal Information Memorandum For Undersecretary Crowder
United States Department of Agriculture
Foriegn Agriculture Service
Referencing GSM-102, Pros and Coms for Additional $500 Million

This document dated 23 Feb 1990 is a FAS staff paper prepared on various elements of announcing Additional GSM-102 credit guarantees for Iraq. Most descriptive statement contained in the document is " In the worst case scenario, investigators would find a direct link to financing Iraqi military expenditures, particularly the Condor Missile.", this in reference to Commodity Credit Corporation and Banca Nationale del Lavoro investigations.

5 Criminal Indictment
In The United States District Court
For The Northern District of Georgia
Atlanta Division
United States V. Banca Nationale del Lavoro Employess and
Iraqi Nationals.

This document is a Full copy (138 pages) of the indictment returned by a Federal Grand Jury against ten defendants on 347 counts of conspiracy, Mail and wire fraud. These activities and events are covered in a dated sequence throughout the indictment providing significant information for cross referencing related activities and events of Iraqi Technology procurement. The Indictment enumerates by dates "The Conspiracy," "Manner and Means of the Conspiracy" and "Overt Acts," including "Money Laundering"

6. Listing of Companies
United States Department of Commerce
Foreign Liscencing Listing
Furnished by ~~[redacted]~~ Secure Congressional Source

This listing is a partial group of companies granted export liscenses by the United States Commerce Department for export of technology and equipment to the Iraqi government. Much of this grouping of companies deals specifick with Nuclear Powre Equipment.

8. Federal Bureau of Investigation File #199-41
Assigned For Investigation 1-11-83
Titled - Palestine Liberation Organization
FCI - PLO - Terrorism

This document collection identifies the activities of an Operative of the Central Intelligence Agency established by back channel operations out of the Whitehouse as an arms and munitions dealer early in the Iran Contra Affair. An analysis of this file and related documents has resulted in establishing links to technology transfer to Iraq through the intelligence community as a parrallel operation with Iran Contra. Significant Information contained relates to a series of overlapping companies appearing to be involved in transferring nuclear reactor technology through intelligence channel proprietaries to the Middle East and Other Third World Nations.

Note: Also in hand are the handwritten notes and references from Interviews with numerous individuals related to various elements of Technology Transfer. This includes a computerized listing of over 250 pages of summaries on Individuals, Companies and Organization and Financial Facilities utilized by the intelligence community.

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
WASHINGTON, DC 20310

REPLY TO
ATTENTION OF

DAMO-NC

7 AUG [illegible]

SUBJECT: Engineering Drawings Associated with North Plants Area

THRU: Commander
US Army Materiel Command
ATTN: AMCCN-C
5001 Eisenhower Avenue
Alexandria, VA 22333

Commander
US Army Armament, Munitions
and Chemical Command
ATTN: AMSMC-ASN
Rock Island, IL 61299

TO: Commander
Rocky Mountain Arsenal
Commerce City, CO 80240

1. Reference is made to Memorandum for Commander, RMA, 25 July 1985, subject as above.

2. In order to execute action in paragraph 3, above reference, it is essential, in accordance with Section 8, AR 380-5 (DA Information, Security Program Regulation), that a certified determination be made that control of the information has not been lost, can be prevented from being lost and if the information has been released to secondary sources, who are the sources and do they still have control of the information.

3. Request you take the necessary action to determine:

a. Who has copies of the subject drawings?

b. Has secondary distribution of the drawings been made?

c. The name, address and POC of holders of the information if secondary distribution has been made.

d. Has control of the drawings been lost by either the primary or secondary holders of the information?

...O-NC
SUBJECT: Engineering Drawings Associated with North Plants Area

4. Upon receipt of the certification and a complete listing of the titles and drawing numbers, this office will take necessary action to classify the subject information.

FOR THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS:

DUDLEY L. TADEMY
Colonel, GS
Acting Director,
Nuclear and Chemical

85-07-23

NOTES

Dr. R. E. Boyle's Trip to RMA

22-26 July 1985

LIST A

1. Item 12, List A, Manual I, General Discription of Incendiary Oil Plant. 6 Aug 52.

   - Remains classified CONFIDENTIAL.

   - Summary description of contents of all related manuals.

   - Portions of the document could be excised but would be unintelligble except for Health and Safety Section, Fire Fighting Section, Physical Constants Section.

2. Not listed, IOP, Manual VI, Tank Farms, 8 Aug 1952.

   - Is UNCLASSIFIED.

   - Description of Tank Farm Area.

   - Can be released.

3. Item 9, List A, Manual II, Production of UY, Step IV & V, Volume 1, 29 July 1952.

   - Remains CONFIDENTIAL.

   - Production of GB from DC.

   - Health and Safety Section can be regraded UNCLASSIFIED and released.

4. Item 10, List A, Manual II, Production of UY, Step IV & V, Volume II, 29 July 1952.

   - Same comments as Item 3.

5. Item 5, List A, Manual IV, Munitions Loading, Step VI, 10 Sep 1952.

   - Remains CONFIDENTIAL.

   - Describes activities and facilities for LAP of munitions and storage.

   - Health & Safety Section can be regraded UNCLASSIFIED and released.

6. Item 1, List A Process Specs. PDW, 1 Oct 53.

   -- Remains classified CONFIDENTIAL.

   - Summary of all pertinent process information for PDW production of DC, PCl_3, $POCl_3$

7. Item 2, List A, Process Specs. IOP, Job 33B, 1 Aug 51.

   - Remains classified CONFIDENTIAL.

   - Summary of all pertinent process information for GB.

   _ In appendix

      -- Fire & Health Hazards may be regraded UNCLASSIFIED & released. (p 4c).

      -- Technical Data (p 47 thru 48) may be regraded UNCLASSIFIED & released.

      -- Technical Data (p 56 thru 70) may be regraded UNCLASSIFIED & released.

      -- References may be regraded UNCLASSIFIED and released.

8. Item 3, List A, Process Specs. Revised, IOP, Job 33B. 1 Oct 53.

   - Remains classified CONFIDENTIAL.

   - Revisions to Item 7.

   - Appendix Information may be regraded UNCLASSIFIED and released (pages 47 thru 112).

   - References may be regraded UNCLASSIFIED and released.

9. Item 4, List A, Physical and Chemical Data. 31 Aug 1951.

   - Document may be regraded to UNCLASSIFIED and released.

10. Item 5, List A, $AlCl_3$ Process; Preliminary Evaluation (For PDW). 21 Jun 1952.

   - Retain Classification.

   - Summarizes Pilot Plant Experiments for the production of DC.

11. Item 6, List A, GB Process Development. Evaluation of Manufacturing Processes for GB. 1 Mar 51, Part I

    - Retain Classification.

    - Report provides recommendations to improve GB Manufacturing Process.

12. Item 7, List A., GB Process Development. Evaluation of Manufacturing Processes for GB. 1 Mar 51, Part 11.

    - Retain Classification (CONFIDENTIAL)

    - Appendix to Part I Item 11.

13. Item 11, List A. Expansion Survey BDM Project Job 33, 10 June 52. 2 Copies.

    - Retain Classification (CONFIDENTIAL)

    - Documents describe requirements to expand production of PDW.

SPECIAL NOTES

(1) The reason review notes are out of order is that duplicate copies were found in another Box and notes were added separately, see "notes" (Items not on List A) 85-07-23.

(2) All items on List A are in box labeled:

    Organizational Construction.

    Information on GB Process.

    Material is CONFIDENTIAL.

    Excluded from GDS.

    Historical Information.

(3) Item 2 was found in another box, see note 1.

(4) Recommend duplicate sets of items 8 thru 12 be destroyed.

LIST B

1. Box 1 of 8 (Item I) (Nothing Classified in Box) (Marking should be removed).

   a. File Folder 1, Nothing classified. Delete FOUO - may be released.

   b. File Folder 2, Nothing classified. May be released.

   c. File Folder 3: (see individual items listed below).

Item		Disposition
(a)	Tech Report 73	May be released
(b)	3 Dept. of Agricultrue Reports marked "not for publication". Recommend Dept. of Agriculture be notified by letter that the reports will be released to the Counsel - if they object - notify DA.	
(c)	Four (4) Tech Reports.	May be released.
(d)	Test Site Operations.	May be released.
(e)	Technical manuscript 201.	May be released.
(f)	Demil Certification Cards.	
	- Not Classified. (No inferences to total production).	May be released.
	- Should be placed in permanent historic storage because they are the back up for the final report on Demil of TX.	

2. Box 2 of 8 (Item II)

   Demil Data Cards

   - Not Classified (No inferences to total production).

   - Ibid 1 C (f).

3. Boxes 3 to 7 of 8 (Items III thru VII)

Demil Data Cards

- No longer classified SECRET by Compiliation
- Ibid 1 C (f).

4. Box 1 of 2 (Item IX)

- Furnace Recorder Charts
- No longer classified SECRET by Compilation
- Ibid 1 C (f).

5. Box 2 of 2 (Item X)

- Furnance Recorder Charts
- Same as 4.

6. Item XI - TX Production Seasonal Reports.

File No.	Disposition
(1) Buried Material	UNCLASSIFIED Releasable
(2) Buried Material 1973	UNCLASSIFIED Releasable
(3) Trip Reports:	
(a) Report of Visit - ASESB(DODESB) 29 Sep 70 - Regrade to UNCLASSIFIED	Releasable
(b) Report of Visit - Sites 1, 3 & 4 1 Apr 70 - Regrade to UNCLASSIFIED	Releasable
(c) Report of Visit - Sites 1 & 3 21 Oct 69 - Regrade to UNCLASSIFIED	Releasable
(d) Report of Visit - Site 3 5 June 68 - Regrade to UNCLASSIFIED	Releasable
(e) Report of Visit - Site 1 12 Sep 67 - Regrade to UNCLASSIFIED	Releasable

(f) Report of Visit - Marysville CA & Denver, CO; 28 Jul 67 - Regrade to UNCLASSIFIED — Releasable

(g) Report of Visit - TX Operational Field Site & Supporting Elements; 13 Feb 67 Regrade to UNCLASSIFIED — Releasable

(h) Report of Visit - Ft. Detrick 28 Feb 66 - Regrade to UNCLASSIFIED — Releasable

(i) MFR to DEIS 30 Aug 65 - Regrade to UNCLASSIFIED — Releasable

(j) Trip Report - 6-16 July 65, 23 Aug 65 - Regrade to UNCLASSIFIED — Releasable

(k) Report of Visit - Site 1 3 May 65 - Regrade to UNCLASSIFIED — Releasable

(l) MFR Report of Visit - SP Operations Sites 1, 3, & 4; 16 May 69 Regrade to UNCLASSIFIED — Releasable

(m) MFR Report of Visit - SP Operations Sites 1, 3, & 4; 15 Feb 65 Regrade to UNCLASSIFIED — Releasable

(n) MFR Report of Visit - Ft. Detrick 16 Oct 64 - Regrade to UNCLASSIFIED — Releasable

(o) MFR Report of Visit - by Dr. Reitz 17 Aug 64 - Regrade to UNCLASSIFIED — Releasable

(p) Trip Report to RMA 2 Jul 64 - Regrade to UNCLASSIFIED — Releasable

(q) Report of Mtgs, Trip and Visits 6 Aug 63 - Regrade to UNCLASSIFIED — Releasable

(4) Buried Material

(a) LTR, Plan for Sampling Wells 15 Feb 73 - Regrade to UNCLASSIFIED — Releasable

(b) LTR to PMOCM 2 Jun 73 - Regrade to UNCLASSIFIED — Releasable

(c) LTR SMUE-CM, Disposal of USAF OPLAN MATERIAL, RMA; 24 Apr 70 Regrade to UNCLASSIFIED — Releasable

(d) Draft Plan for Disposal of Buried USAF OPLAN Material Apr 70 Retain Classification - contains info available material in stockpile.

(e) LTR SMUEA-CM, Additional Requirements RMA Retain Classification - Stockpile figures

(f) LTR & 1st Ind 1, Apr 70, Disposal of USAF OPLAN Material at RMA-Retain Classification - contains stockpile figures

(g) MSG P232235Z Mar 70 - Regrade to UNCLASSIFIED — Releasable

(h) LTR, Disposal of USAF OPLAN Material at RMA, 12 Mar 70 Retain Classification - contains stockpile figures

(i) MSG P 232108Z Mar 70, Disposal of USAF OPLAN Material RMA, - Retain Classification - contains stockpile figures.

(5) Operations Guides

(a) Opns Guides (1-12) - Regrade to UNCLASSIFIED — Releasable

(b) MSG, 111926Z Jan 66 - Regrade to UNCLASSIFIED — Releasable

(c) DF: 3 Feb 66, Safeguarding Operations Guides - UNCLASSIFIED — Releasable

(6) Site 1, Seasonal Rpt 1963

- Retain Classification
- contains specifies of harvested quantities and methodologies
- all other parts may be released

(7) Site Seasonal Rpt 1964

- Page 1 & Table of Contents
- Regrade to UNCLASSIFIED — Releasable
- Page 7 thru 82 Retain Classification - shows yields

(8) Site 1 Seasonal Rpt., 2 Dec 64 (2nd Cycle)

- Retain Classification of pages 31&34 - Shows yields.
- Others may be released.

(9) Monthly Rpts TX Product

- Regrade to UNCLASSIFIED — Releasable

(10) Site 2 Seasonal Report 15 Sep 64

- Retain Classification on pp 6, 7, 8 & 10
- Shows yields
- Others may be released.

(11) Site 1 Seasonal Opnl Rpt., 31 Dec 65

- Retain Class on pages 27, 36 thru 48
- Info on yields
- P49 can be regraded to UNCLASSIFIED — Releasable
- Regrade pages 50, 54A to UNCLASSIFIED — Releasable

(12) Site 1 Seasonal Operational Rpt 31 Oct 66

- Retain Classification on pages 3, 22.
- Info on yields

(13) Site 1 Seasonal Rpt., 1967

- Retain classification on pages 2, 24 thru 32. Info on yields
- May regrade remainder to UNCLASSIFIED

(14) Site 1 Seasonal Rpt., 1968

- Retain Classification on pages 2, 14 thru 22.
- Info on yields
- May regrade remainder to UNCLASSIFIED

(15) Site 1 Seasonal Rpt., 1969

- Retain Classification on pages 3, 18, 19
- Info on yields
- May regrade remainder to UNCLASSIFIED

(16) Site 3 Seasonal Rpt., 1964

- Retain Classification on page 50
- Info on yields
- May regrade remainder to UNCLASSIFIED

(17) Site 3 Seasonal Rpt., 1965

- Retain Class on page 5 - Info of yields
- May regrade remainder to UNCLASSIFIED

(18) Site 3 Seasonal Rpt., 1968

- Retain Classification on pages 23 thru 27
- Info on yields
- May regrade remainder to UNCLASSIFIED

(19) Site 3 Seasonal Rpt., 1969 85-07-23

- Report may be regraded to UNCLASSIFIED

(20) Site 4 Seasonal Rpt., 1964

- Report may be regraded to UNCLASSIFIED

(21) Site 4 Seasonal Rpt., 1964

- Retain Classification on pages 22, 26
- Annex A-Retain Classification on pages 6, 7,
- Info on yields
- Remainder may be regraded to UNCLASSIFIED

(22) Site 6 Seasonal Rpt., 1965

- Retain Classification on pages 21, 22, 23
- Info on yields
- Remainder may be regraded to UNCLASSIFIED

(23) Site 6 Seasonal Rpt., 1966

- Retain Classification on pages 16, 16, 18
- Info on yields
- Remainder may be regraded to UNCLASSIFIED

(24) Site 6 Seasonal Rpt., 1968

- Retain Classification on pages 40, 41, 42, 43, 44
- Remainder may be regraded to UNCLASSIFIED

(25) Final Rpt Development of A/B 45Y-2 Spray tank

- Retain Classification
- Weapons development

(26) RMA Final Rpt

- UNCLASSIFIED
- No objection - may be released

(27) Capital Equipment

(a) LTR, Plan for Disposal of TX Production Equipment, 1 May 70
- Regrade to UNCLASSIFIED

(b) MFR, 28 Sep 65, Improvement of M5 Harvester
- Regrade to UNCLASSIFIED

(c) LTR, Request for Additional Capital Equipment Dollars, 27 Sep 65
- Regrade to UNCLASSIFIED

(d) LTR, Capital Equipment for FY 66
- Regrade to UNCLASSIFIED

(e) LTR & 1st Ind, Cost of Optional Items
- Regrade to UNCLASSIFIED

(f) MFR, 15 May 64, Capital Euipment for Special Projects
- Regrade to UNCLASSIFIED

(g) LTR, 4 May 64, Add'l Funding Requirements for AFMIPR
- Regrade to UNCLASSIFIED

(h) LTR, 19 Jun 62, No. of Harvesters Required
- Regrade to UNCLASSIFIED

(i) ENCOM Rpt #39
- Not Classified

(j) Pictures Not Classified

(28) Residue Maps

- Not Classified
- Releasable

(29) VU Graphs
- Regrade to UNCLASSIFIED
- Releasable

(30) Buried Material
- Nothing Classified
MSG - P091530Z Mar 75 Declassifys Numbers

(31) Demil General 65

(a) Trip Rpt Cmt 2 to Cmt 1
- Regrade to UNCLASSIFIED

(b) LTR, 24 Dec 64, Impact of Military Personnel Shortages
- Regrade to UNCLASSIFIED

(c) LTR, 10 Nov 64, Request for Srablization of TS Site Format
- Regrade to UNCLASSIFIED

(d) MFR, 9 Nov 64 Cost Reduction
- Regrade to UNCLASSIFIED

(e) DF, 5 Oct 64, Management Survey
- Regrade to UNCLASSIFIED

(f) LTR & 6 Ind, 24 Sep 64, Authorization to wear Civilian Clothing

(g) LTR, 15 Jun 64, Report for Deviations to Mil Std.
- Regrade to UNCLASSIFIED

(h) MFR, No date
- Regrade to UNCLASSIFIED

(i) LTR & 3 Ind, EM Civilian Clothing Allowance
- Regrade to UNCLASSIFIED

(j) MFR for CO, TX Production, Procurement, Storage & Survelliance, 3 Mar 64
- Regrade to UNCLASSIFIED

(k) DF, 15 Oct 63, Security Inspection Trip - Proj TX.
- Regrade to UNCLASSIFIED

(l) LTR, 23 Jul 63, Security Guidance - TX Proj.
- Regrade to UNCLASSIFIED

(m) MFR, 18 Mar 63, Opn of Site 6.
- Regrade to UNCLASSIFIED

(n) LTR & 1st Ind, 5 Mar 63, Production TX Specs
- Regrade to UNCLASSIFIED

(o) LTR, 15 Feb 1963, Security Plan - TX Project
- Retain Classification

(p) LTR, 28 Jun 63, Opn of Site 6
Regrade to UNCLASSIFIED

(q) LTR, 20 Jun 62, Program, Rpt. Special Project
- Regrade to UNCLASSIFIED

(r) LTR, 30 Apr 62, Allowances for Spec Proj Pers
- Regrade to UNCLASSIFIED

(s) LTR, 12 Apr 62, TDY & Medical Care for Classified Program.
- Regrade to UNCLASSIFIED

(t) Proj Order - Manufacture of TX
- Regrade to UNCLASSIFIED

(32) Final Rept Info Site 1.
- UNCLASSIFIED

(33) Draft EIS
- UNCLASSIFIED
(Enclosure 10, not attached, is Classified)

85-07-24

CLASSIFIED DRAWINGS IN VAULT - ROOM 126 - RMA

1. Warehouse Area. Classified CONFIDENTIAL - RETAIN
Bldg 1611
Communication Center details and wiring drawings
Drawing E4-611-7, 18 Mar 70

2. Administration Area Classified CONFIDENTIAL - RETAIN
Bldg 111-141
Security Alarm System &
Electrical Wiring details.
Drawing E4-111-4U, 19 Mar 76

Classified Drawings in Vault Room 113 - Comptroller Area

Drawings are Classified RESTRICTED (old security designation

equivalent now to CONFIDENTIAL) - Storage Area

Numerous drawings

Remains Classified and should not be released

Possibly need a complete listing,

Vault Rm. No 215, Unclassified Drawings, 1501 1601 & Plants Area.

1. Complete Listing of all drawings available for North Plants area.

2. Individual drawings were originally classified as SECRET but were regraded to Unclassified by automatic regrading but not reviewed for compliance 1.

3. The documents were regraded from Secret to CONFIDENTIAL to UNCLASSIFIED. (Group IV). The final regrading was done on 22 June 1965 by authority of DODD 5200.1. This was automatic - drawings were not reviewed - just downgraded.

4. Drawings are so detailed, it is possible that a plane could be made from the total set of drawings. The drawings show size, dimensions and type of material of construction.

5. Review of drawing DEF 37-05-51, Sheet 19 of 39, dtd 3-12-51. - Drawing provides engineering details of process flow for fab and manufacture of GB.

6. Review of Drawing 37-05-51 (Sheet 28 of 698) 9-17-51, for Bldg 501, Steps IV & V. Piping - Utility Flow Diagram.

   - This drawing had Security Notices but was not marked for classification. Shows pipe sizing, material of construction & flow of materials.

7. Review of Drawing 37-05-51 (Sheet 39 of 39) 5-4-51, for Step IV, Bldg. 501 Process Flow Diagram. Sheet 4 of 4.

   - This drawing was originally classified SECRET-regrading automatic, as noted above.

   - Shows Process treating Tanks, recovery Stills, and special filters in detail with chemical sewer line connections.

8. Review of Drawing No. 37-05-57 (Sheet 90-522), 10-24-51, for Bldg 601 Piping - Utility Flow Diagram.

   - This is a drawing of LAP lines. Details are so fine that the process & sizing gives capacity & number of fill lines. Shows sizes of sections needed for equipment. Contains security caveat but no classification stamp.

9. Review No. 37-05-51 (Sheet 37 of 39) 5-4-51, IOP Bldg 501 Step IV Process flow Diagram. (Sheet 3 of 4).

   This drawing was originally classified SECRET and regraded successively by DOD Directive as above. Shows capacity of agent production with precursor requirements, HF vaporizer system, reactor construction, and holding tanks.

10. Review of Drawing No. 37-05-51 (Sheet 36 of 39) 5-4-51. IOP Step IV Bldg 501, Process Flow Diagram (3 of 4). Same as 9 but different line. Originally classified as SECRET.

11. Review of Drawing No. 37-05-51 (Sheet 16 of 39) IOP Bldg 501, Step V. Piping elevations & section sheet #6, 4-7-51, Contains Title 18 Caveat. Not stamped for classification.

12. Review of Drawing No. 37-05-51 (Sheet 9 of 59), IOP Bldg No. 501, Step V, Pipe - Composite Arrangement Plan. Sheet 7. Contains title 18 Caveat. No classification stamp.

13. Review of Drawing No. 37-05-51 (Sheet 6) - Ibid

14. Review of Drawing No. 37-05-51 (Sheet 5) - Ibid

15. Review of Drawing No. 37-05-51 (Sheet 4) - Ibid

16. Review of Drawing No. 37-05-51 (Sheet 3) - Ibid

17. Review of Drawing No. 37-05-51 (Sheet 2) - Ibid

18. Review of Drawing No. 37-05-51 (Sheet 1) - Ibid

19. Review of Drawing No. 37-05-51, Sheet 13 of 39, IOP Bldg No. 501, Step V. Piping Elevations & Sections, Sheet 3, 4-7-51.

20. Review of Drawing No. 37-05-51, Sheet 12 of 39, IOP Bldg 501, Step IV. Piping Elevations & Sections, Sheet #2.

21. Review of Drawing No. 37-05-51, Sheet 12 of 39, IOP Bldg 501, Step IV. Piping Elevations & Sections, Sheet #1.

22. Review of Drawing DEF 37-05-51, Sheet 14 of 39, IOP Bldg 501 Step V. Piping - Elevations & Sections Sheet #4.

23. Reviw of Drawing DEF 37-05-51, Sheet 199 of 698, IOP, Bldg 501, 502, 503, 506, 601, 603, 606, & 710 Instrument Schematic Arrangement, Health Monitoring & Process Monitoring Sheet No. 1.

85-07-23

- Describes placement, sizing, material requirements for alarms, sensors and electrical power requirements for Control Panels, 9 July 1951.

Special Note for REB.

Although each individual drawing is currently unclassified by instructions contained in DODI 5200.1 and were regraded unclassified on 22 June 1965 (14 years after the fact) on an automatic basis as prescribed,(Category IV) and regraded to lower classification, after 3 years and finally declassified after 12 years; the compilation of all drawings would in effect provide terrorists or third world nations excruciating details on how to build an agent producting plant, sizing requirements, materials of construction, specialized equipment needed for the process, and sufficient information to provide capacity scale-up or scale-down and therefore should be classified SECRET by compilation and not released as a total package.

Review of specific drawings can be authorized but assembling all drawings as a unit should not be authorized. Authority for classification by compilation is paragraph 2-211, AR380-5, and AR380-86 paragraph 3, Table I and paragraph C.

NOTE: Master Index to all concerned drawings in vault is maintained in RMA Engineering Section under the control of Mr. Garland Gunter, Chief, Engineering Plans & Services (Ext. 167).

85-07-24

Box Labeled 228-10 Installation Historical File (1951-1952).

Folder - Historical Reports Jan - June 52 (Marked RESTRICTED Secret Information, partially).

- Cannot be released -- Operations Division

- Contains production figures for H

Folder - History of RMA, 1 July - 30 Sep 52 (Marked RESTRICTED Information, partially).

- Cannot be released -- Operations Division

- Contains production figures for H

Folder - Quarterly Historical Report - 1 April - 30 June 1952.

- Cannot be released -- Operations Division

- Contains production figures for H

Folder History of RMA - 1 Oct - 31 Dec 1952 (Marked RESTRICTED in Part).

- Cannot be released -- Operations Division

- Contains production figures for H

Folder - Original Copies, Unit Historical Files - 1 Oct - 31 Dec 1952 (RESTRICTED)

- Cannot be released

- Production figures for H should be marked RESTRICTED-Security Information.

- Contains production figures for H

Folder - Labeled 206-09 Installation History - 1 Apr 59 - 30 June 59

- Not classified

- May be released

Folder - Labeled 206-09 Installation History - 1 Jan 59 - 31 Mar 59.

- Not classified

- May be released

Folder - Labeled Monthly Division of History Reports 1 Jan-30 Jun 51.

- Not classified

- May be released

Folder - Labeled 206-09 Installation History - 1 July - 30 Sep 59.

- Not classified

- May be released

Folder - Labeled Historical Reports - Jul - Dec 1951

- Not Releasable

- Should be marked RESTRICTED-Security Information.

- Contains production and fill data on H.

Folder - Labeled Monthly Division History Report 1 July-31 Dec 51.

- Not releaseable.

- Should be marked RESTRICTED Security Information.

- Contains production and fill data on H.

Folder - Labeled History Reports - Jan - Jun 1951.

- Not classified

- May be released

13. Folder - Labeled 206-09 Installation History - 1 Oct - 31 Dec 59.

- Not classified

- May be released

85-07-24

NOTE: In these boxes there is nothing SECRET in and of itself. However, cumulative information about H & GB stockpile figures could be derived. Information should not be released.

FILMS

A. Rockrust

Silent Film - Classified SECRET
22 minutes
Print 5-59-64
Lab No. RA-175
Control No. 63 FDS-2899
1 of 2 Series A

Agent TX Production & Processing
Details of planting requirements, temperature, pressure, sizing of operations, site identifiable.
Retain Security Classification of SECRET but may be regraded to CONFIDENTIAL.

B. Calsite

Silent Film - Classified SECRET
22 minutes
S-146-64
Lab No. RA180
Control Number D64, FDS - 2047
1 Of 3
Soil preparation Operations
Plowing Operations
Discing Operations
Irrigation
M5 Harvesters
Packaging
Field Storage

Site Not Identified

Only field processing and no plant processing.

Regrade to UNCLASSIFIED.

FILMS

A. Rockrust

Silent Film - Classified SECRET
22 minutes
Print 5-59-64
Lab No. RA-175
Control No. 63 FDS-2899
1 of 2 Series A

Agent TX Production & Processing
Details of planting requirements,
temperature, pressure, sizing of
operations, site identifiable.
Retain Security Classification of
SECRET but may be regraded to
CONFIDENTIAL.

B. Calsite

Silent Film - Classified SECRET
22 minutes
S-146-64
Lab No. RA180
Control Number D64, FDS - 2047
1 Of 3
Soil preparation Operations
Plowing Operations
Discing Operations
Irrigation
MS Harvesters
Packaging
Field Storage

Site Not Identified

Only field processing and no plant processing.

Regrade to UNCLASSIFIED.

SPECIAL NOTES: (Items not on List A or B found in box labeled "from DTO Mar 85"). 85-07-23

Folder 1. Binary Production Facility

- Not releasable
- No drawings are marked for Security, but folder is. Documents should be.

Folder 2. Rehab of GB Fac & Filling Lines

- This is the UNCLASSIFIED version of the Mar. 80 Report.
- This could be released to Shell.

Folder 3. Binary Production Facility No. 1

- Request Higher HQ for Regrading Instruction.
- Documents RMA originated can be regraded UNCLASSIFIED

Folder 4. Letter & Report, Chemical Munition Report., Jun 1980

- Retain as classified CONFIDENTIAL
- Shows deficiencies.

Folder 5. Final Report of Round Out of Sets B; 1 Dec 57 (Vol. I & Vol. II)

- Keep classified CONFIDENTIAL.
- Detailed Description of GB Process.

Folder 6. Report Manufacturing Proposal for XM867 Binary Munitions at RMA.

- Recommend regrade to UNCLASSIFIED.

Folder 7. Stockpile TX VU-Graphs - Retain SECRET classification.

- Not Releasable

folder 8. NOTE: Scanned RHA Historical Reports - They contain in general, production data and therefore should not be regraded. (This group was in Darlene's Safe). CONFIDENTIAL and SECRET. Reproduction and Stockpile data.

9. Reviewed other Historical Data marked RESTRICTED. Above applies.

- Not Releasable

25 Jul 85

MEMORANDUM FOR COMMANDING OFFICER, RMA

SUBJECT: Engineering Drawings Associated with North Plants Area

1. On this date, I reviewed some 20 engineering drawings related to the North Plants Area vs representative samples of the total number of drawings ( ) available.

2. Although each individual drawing is now unclassified (regrading action to unclassified was accomplished on 22 Jun 65 in accordance with DODD 5200.1), a compilation of all drawings would in effect provide more than adequate, in fact excruciating detail, information on how to build an agent-producing plant, sizing requirements, materials of construction, specialized equipment needed, and sufficient data to provide capacity scale-up or scale-down requirements. Based on the above information, I intend to recommend that the compilation of all of the engineering drawings related to the North Plants Area be classified SECRET.

3. It is therefore recommended that all drawings associated with the North Plants Area be moved from the unclassified storage vault room (No. 215) and be stored in the security vault room (No. 126) in Building 111 until reclassification action is completed.

4. You will be advised of actions taken.

ROBERT E. BOYLE
DAMO-NCC
HQ DA

CONCUR

NONCONCUR

CF:
Dir of Instl Svc
Chief, Fac Engr Div
Chief, Engr Plans & Svc

CONFIDENTIAL REPORT

THREAT ASSESSMENT/POTENTIAL FOR ILLEGAL EXPORT/ COVERT TRANSFER OF TECHNOLOGY IN THE PETRO-CHEMICAL INDUSTRY COMPLEX

STRATEGIC/TACTICAL FOLLOW-UP REPORT

IRAQI ATTEMPTS TO SECURE
COMPUTER, ELECTRONIC AND MILITARY EQUIPMENT
OPERATIONS 1 ST QUARTER 1989

PREPARED FOR

KENNETH C. BRUMFIELD
JACK M. BIGLER
MARTIN SCHRAMM

DEPARTMENT OF THE TREASURY
UNITED STATES CUSTOMS SERVICE
SOUTHWEST REGION

PREPARED BY

ROBERT F. BICKEL, SR

DATE

MAY 20, 1990

STRATEGIC /TACTICAL FOLLOW UP REPORT

SUBJECT:

Assessment of attempts by operatives of the Iraqi government to secure equipment and materials related to the support of the Iraqi military complex during the first quarter of 1989 through agents operating in the Houston, Texas area and the potential relationship to ongoing activities with regard to current investigations.

OBJECTIVE:

This report is to evaluate the activities of individuals currently operating in the United States to secure and transport equipment that is strategic to the purposes of the Iraqi military agenda to destablize the political and military environment in their part of the world . These activities have been conducted since the first quarter of 1989 in the Houston area of the Southwest Region and are directly related to the events that are centered around seizures of atomic triggering devices and equipment purported to be oil field pipeline equipment at ports in europe.

It is the intent of this assessment to draw these operations conducted in this region and on the west coast together as part of an overall plan of operation by the Iraqi Government and their agents to build equipment capable of delivering nuclear capability projectiles to other nations in their geographic region.

HISTORICAL BACKGROUND:

Early in the first quarter of 1989 Mr. Tony Harden of Southern Brokers, Inc. was contacted by representatives of the Iraqi Government and asked to act as an agent to secure highly sophisticated equipment contained in a multi-paged list that was subsequently furnished to him. Mr. Harden contacted Robert F. Bickel, Sr. to act as a Technical Consultant in determining the nature of the equipment and to establish the validity of the specifications contained in the equipment list.

At the first meeting with the Iraqi representatives it was established that the equipment they sought to secure was passably on the State Department controlled export listing or would be under the conditions that it was going to be shipped into Iraqi ports, also discussed was the fact that upon the most cursory examination most of the equipment would probably because of its nature have military nomenclature numbers. The senior Iraqi representative Shabir Al Fasali stated that obtaining the equipment was the first

consideration and that he and his associates would handle the export documentation although they might need our assistance in some instances. At the end of the meeting it was asked that all attempts be made to secure catalogues and technical specification sheets on each item or group of items on the list, of specific consideration was the necessity for clarification of some specific technical information that would be needed to obtain critical pricing information. It was decided that a list of all information required should be prepared so that it could be sent by telex to Baghdad, ultimately two separate lists of questions were prepared because the equipment was being acquired for individuals who appeared to be in charge of separate segments of the operation that the equipment was to be acquired for. These lists were prepared by Bickel and Fasali at a subsequent meeting later in the week after some time had been had to evaluate the listing of the equipment.

Within hours of this first meeting and having the opportunity to evaluate equipment and the obvious intent of the Iraqi representatives Bickel contacted Ken Brumfield at the U. S. Customs Service offices in Laredo, Texas and apprised him of the situation and discussed the potentials for what subsequent actions should be taken. Arrangements were made to co-ordinate the intelligence gathered from the first meeting, prepare a summary and Fax it to his office as formal notification that a contact had been made. As the meetings with Al Fazali continued agent Jack Moore was brought into the project as a contact and to facilitate evaluation of the information obtained.

Summaries of each meeting and copies of all telex were prepared and Faxed to Ken Brumfield and Jack Moore jointly at the San Antonio office of Customs. All information secured on the primary participants in this project were detailed and are a part of the file including all participants, telephone numbers, addresses, bank information and the names and addresses of individuals who were implicated as participants domestically but were not made available at any meetings.

At the time due to the type of information furnished on the equipment to be acquired the following was determined:

* The equipment was of a sensitive technological nature that would be subject to export control.

* The only application of this equipment would be for military purposes, passably in rebuilding equipment captured during the Iran/Iraq War.

* There was an interest at high levels within the Iraqi military in this equipment due to the rank of the individuals that we were communicating with by telex at two separate facilities to secure answers to technical questions that would relate to the configuration of the equipment to be ordered.

* None of the Equipment had a delivery date of less than 6-9 months from the date it was ordered.

* In several instances the initial order for the equipment would require State Department clearance for the order to be initiated.

* Much of the equipment had limitations placed on it as to destination stipulated at point of origin.

The complete file on this operation and all information gained during contacts with Al Fazali would be better evaluated in its entirety. In view of recent events much of what was transpiring in the attempts to secure the equipment listed in the files was misinterpreted at that time because of the limited scope of intellegence then at hand.

The contact with the Iraqi representatives was finally broken off due to the following:

* There was no ongoing support of the project from the control agent that was taking the reports and there was not an apparent level of interest to warrant pursuing the contact even though it was encouraged by Moore. To be fair it should be noted that there were several high intensity operations actively being pursued in the region that drained personnel and resources.

* Co-ordination was impossible with the suppliers without agency intervention due to the sensitivity of the equipment being pursued.

* A personal decision was made (by Bickel) that without active participation on the part of the agency there was a very real potential to be caught in a cross fire between agencies or with the Iraqi representatives, Al Fazali purported himself to be a graduate of Michigan State University in nuclear engineering but had all of the personal attributes and behavior characteristics of Iraqi Secret Service or some associated group. The personal exposure under these circumstances without co-ordination and guidance within the agency was an unacceptable risk.

After the contact was broken off Al Fazali was seen by Bickel on several occasions at Houston's Restaurant on Westheimer at Fondren usually seated in the first booth against the outside wall in the bar area in conversations with associates who he had mentioned at different times each of these individuals are documented in the reports filed with Jack Moore. It should be noted that on at least two occasions he was in the company of Ian Smalley. Smalley is known for his activities and in looking back was probably involved in guiding and advising the Iraqi representatives. This is of interest in light of the type of equipment that the Iraqis were attempting to acquire at that time and the events that have transpired within the last 60 days.

CURRENT ACTIVITIES:

Events reported on the NBC News by Tom Brokaw, Sunday, May 20, 1990 activities of the last 18 months and the potential for the original contacts made with Al Fazali to be directly related is in a probability category approaching 100%.

Over a period of 60 - 90 days there have been significant events and seizures of equipment in two european ports of equipment that are a part of a much larger supply of equipment that when assembled at their final destination would have presented a significant threat to the security of nations in the region around Iraq.

* The developer of the "Super Guns" developed for the United States Military, Mr. Bull, was fatally shot outside his apartment in Brussels, Belgium eight weeks ago after having converted his weapons system to nuclear capability (this was actually achieved during the 1950's) and agreeing to build it for King Hussein and the Iraqi Military.

* A shipment of nuclear triggers was seized at Heathrow Airport in London, England in trans shipment from the United States on a libyan Airliner. These devices are passably modified oil field equipment intended for downhole geologic surveys in drilling and exploration. In examining the film pictures from the news the crate that they were in would closely approximate the length that this type of Pulsed Neutron Generators would require for shipment and studying the dimensions of width and depth there were either eight or ten devices in the crate.

* The "oilfield tubulars" seized at another Port in europe were also shown in this same newscast. There is no known use for a tubular product on a pipeline that would require the wall thickness that is represented in the sections of pipe that were shown. It is also interesting that the flanges were added at the point of origin and would present a serious problem in shipment this presents that they were only there for subterfuge. In studying the segments shown in the news film it would appear that enough segments of the pipe were being shipped to produce no less than three gun barrels for one of the "Super Guns". The flanges would be machined or cut off at their destination and assembly point and the segments of the barrel would be welded with special equipment (there are only three countries that produce equipment that could produce this type of weld Japan, Germany and the U. S.)

* Copper Casings were seized at a French port that were determined to be for the shells for the projectiles of the weapon system. They are in fact probably the outer jacket for the projectiles due to the malleable nature of the metal and the tremendous concussion of the weapon being fired. This would require more study no pictures were shown of this.

The potential is more than plausible that Smalley was acting to help coordinate the components acquisition on behalf of Bull who had been a long standing associate in the arms trade. There may be information in the file that will tie Al Fazali to Smalley through telephone tolls if that was approached at the time, also other associates whose telephone numbers are contained in the reports should be cross referenced for the same purposes.

The file built during the time that contact was maintained with Al Fazali should be considered a source of original information with regard to the current investigation of the activities of the Iraqi Government and its agents. The intelligence contained in the file will support with dates and times the involvement of no less than six Iraqi nationals and would implicate others operating as agents of a foreign government under statutory requirements and criminal penalty.

The ability to identify potential suppliers of other cross technology components of the weapons system would be of importance even though those components might already be in the assembly area. A study of any information available on the entire system or even pictures and a description of the operations of the systems would assist greatly in determining the availability of the components and from what sources they might be acquired using engineering evaluation guidelines.

* In an interview segment Ian Smalley stated that "if the intent of this equipment was such that it was to be used to build a "Super Gun" for the purpose of launching nuclear projectiles the project died with Mr. Bull when he was shot". This is very doubtful in that the circumstances of planning and logistics would dictate that during the last 18 months documentation would have had to been furnished to the Iraqis in the co-ordination of acquiring the needed equipment in suitably disguised form.

These are the missing pieces to the puzzle presented in the news broadcast by NBC. Tom Brokaw pointed out proudly that their story was the result of months of investigative reporting, many aborted occasions of setting up hidden cameras to secure pictures of the meetings between some of the main players who have conspired for months to acquire and supply the equipment to build Bull's weapon system, securing an interview with the Ian Smalley in his Houston Penthouse.

The capability to secure the entire operation and a large number of the participants including the principals and to identify significant manufacturers who have supplied components for this system is very real at this time. Using equipment suppliers from cross technology sources is central to the ability for this weapons system or any other to be constructed.

CONCLUSION:

As was pointed out above there was some confusion as to the intended uses of the equipment that the Iraqi group was attempting to acquire during the first quarter of 1989. After the recent events have surfaced even a cursory check of the equipment list that the Iraqis presented will show that the development and final construction of the weapons system and the sub-systems required to operate the "Super Gun" on a nuclear delivery capacity could not have been achieved without the items on that list. Scientific monitoring for final assembly and the communications requirements are related to the numbers of items that are specified on the original list. The attempt to secure this equipment is one of the few segments of the system that cannot be acquired by use of cross technology transfer applications due to the specialized nature of some of the individual pieces needed test the components in the latter stages of assembly.

This contact by the Iraqis was only a part of an overall co-ordinated plan to secure the components needed under any covert means necessary to build a complete weapons system even though it had to be acquired and constructed over a long period of time so that the whole project might not be jeopardized.

The association of Ian Smalley at that time with Al Fazali is significant in that it provides the appearance of complicity at a time when the Iraqi shopping list was actively being pursued and related equipment would have been a concern on the part of Smalley.

CONFIDENTIAL DOCUMENT

THREAT ASSESSMENT/POTENTIAL FOR ILLEGAL/COVERT TRANSFER OF TECHNOLOGY IN THE PETRO-CHEMICAL INDUSTRIAL COMPLEX

PREPARED FOR

DEPARTMENT OF THE TREASURY
U. S. CUSTOMS SERVICE
SOUTHWEST REGION

Prepared by:

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THREAT ASSESSMENT /POTENTIAL FOR ILLEGAL/COVERT TRANSFER OF TECHNOLOGY IN THE PETRO-CHEMICAL INDUSTRIAL COMPLEX

SUBJECT:

Potential alternative uses of currently available industry technology for conversion to strategic or defensive systems by host countries or other foreign entities or individuals.

OBJECTIVE:

To identify specific areas of Petro-Chemical industry technology where current export classification allows ready access to equipment and technology that would allow an inordinant degree of potential for conversion from the primary design criteria to secondary usage by other nations in areas of strategic weapons (overt or covert) and defence advantage for military or terroristic usage.

POTENTIAL:

Recent international incidents have been examples of the broad range of potentially strategic industry technology that is readily available to foreign nations, technology and equipment that could represent the potential for inadvertent or covert abilities for conversion of High Technology Designs and Equipment to be adapted to military or terroristic uses that would not be in the best interest of the United States and its allies.

A specific case in point is that it is relatively easy for Radio Active Sources in various aspects of oil & gas exploration equipment to be altered or modified for use as Atomic Triggering Devices. This has been known openly for at least 15 years within some informed segments of the industry. Between 1973 and 1975 several simple designs for a thermonuclear device were worked out using containers the size of a standards 55 gallon drum for camouflage purposes,the triggering device and power supply were suspended in the center. The design allowed for fissionable material to be encased in the space between an inner cylinder and the outer casing. The design was somewhat crude but simple and effective for disguise and transportation purposes. For this particular design a Gamma-Ray Neutron tool commonly used in the most basic suites of evaluation logs run on exploration and completion jobs was selected as the triggering device, the tool is readily available in any district for the major logging companies both domestically and internationally.

In recent years advancement in the areas of electronics miniaturization and computer systems has increased the number and type of radioactive sources used for an increasing number of evaluation logs that generates a wide range of information. This

does not however lessen the potential for the use of this equipment in an altered form for military or terroristic purposes. In fact the potential exists for significant technological advances to be available to the most bankrupt of countries if the opportunity presents itself to acquire equipment for evaluation in a state run laboratory as happens in Mexico and other segments of the third world. Modeling their technology acquisition format after the Japanese the Pemex Lab on Navigation in Mexico City regularly acquires equipment that is dismantled and documented in the most minute detail. This has been going on since the early 1970's and before, in a dedicated facility within their complex that is a three story section of the main laboratory.

It is also widely accepted that as a matter of developing bargaining power with other nations all of the information that is derived form these evaluations is available for a price on the open market. While it is easy to acquire, dismantle, evaluate and document the designs of this equipment the technology does not exist in more than maybe two countries in the world to duplicate the equipment in a reliable operational form, the United States being the primary source. Aside from the computer industry the Petro-chemical and related process industries offer the most prolific supply for any nation or organization to develop a High-Tech Shopping List and with a few good sources and a reasonable front operation acquire anything desired that could feasibly be converted for uses beyond their initial design purpose. The potential nuclear threat being the most serious there are other areas that pose serious long term potential for acquisition and conversion to military, terroristic or covert use to enhance the capabilities of technically deprived nations.

There are very few lines of open communication across the industry as a whole. Various segments of the industry see themselves as autonomous in the use of the sciences, engineering design and fabrication. Due to this attitude the **Petro-Chemical Industry** is broken up into segments that can be defined for operational purposes as follows:

OIL & GAS

EXPLORATION:

Geology and Seismology involving communications, computer enhancement and assessment, satellite survey capabilities and very specific land and oceanographic seismology that incorporates some equipment that can with little or no effort be used for weapons applications and submarine tracking technology.

DRILLING AND COMPLETION:

Most obvious here we have already addressed, the wide range of nuclear sources and devices readily available. This equipment is wide spread and so prolific that each company that maintains an operations district or region has essentially the same

capability with minor differences in tool design. There are approximately 12 separate service oriented companies with the most sophisticated field capabilities and highly advanced laboratory facilities developing equipment in categories that have cross-technology capabilities. The equipment is so common place that radioactive material and equipment with nuclear source generating capability is transported in open vehicles currently in the state of Texas and other oil and gas producing states.

Also in wide use within the service industry is computer controlled telemetry and process equipment that provides access to electronics, miniaturization, computerized controls and specific heat and pressure sensitive components in areas of electronic and composite materials (these same materials are used in the fields of aeronautics). Often the intricacy of the designs of this equipment is such that very sophisticated devices or electronic are imbedded in the design matrix at a depth where it wouldn't be particularly noticeable or of any apparent significance.

In the offshore areas the use of submersibles is extreamly wide in pipeline and production facility construction and inspection work. This provides access to the entire range of composite materials advancements, remote operations computerization and telemetry, robotics, metallurgy, and the necessity of high pressure lubricants. Each of these areas are directly related to the operations of the United States Navy Submarine Fleet. This area alone is advancing at such a rate technologically that the range of information available from any facility or organization involved in the development of new equipment and procedures is sometimes ahead of the ability to incorporate it into current working technology.

PRODUCTION:

Production equipment is nothing more than a scaled down version of refining equipment for a very limited range of usage. With some small modifications the typical production unit for a gas production location can produce a wide range of product stream that depending upon the purpose of the operation can be anything form pharmaceutical grade drugs to poison gas for military purposes.

It is possible to scale down a production system such that the normal time that a drug lab takes to cook anything from meth-amphetamine to crack or smokable heroine and ice can be produced in 1/6 th the time in higher quantities by simple manipulation of temperature and pressure. The formulation of the chemical components in the feedstock stream for these systems is subject to nothing more than simple chemistry and physics, residence time, order of chemical constituent injection, pressure and temperature.

In recent years advances have been made using other areas of the industry as a model. Remote monitoring of locations and facilities has been adapted for economy measures involving

computerized controls, systematic poling of production stream conditions from the wellhead through the production unit, metering of satellite gathering systems and pipeline interchange points including compressor facilities.

Metallurgy and chemical treatment for inhibition of corrosion and have been significantly affected due to production in areas where various constituents of the production stream were highly corrosive or potentially hazardous to personnel or the environment. Much of the research in this area has been not only chemical but biologic in nature.

PIPELINE AND GAS TRANSMISSION

The most advanced technology currently being used in this area addresses many of the same functions mentioned above computerized telemetry, remote operations for areas not readily accessible on normal basis, monitoring of functions and switching of controls by remote telemetry. Also the gas turbine systems and the controls in use at these facilities are highly adaptable for any purpose. The turbines themselves involve the latest in metallurgy (often they are nothing more than a modified aircraft turbine as is used in the military and commercial fields, specifically the Pratt-Whitney turbine system used in the United States Military Strategic Helicopters manufactured by Bell-Textron. One organization Commercial Helicopters Inc. of Lafayette, La. operated not only a flight service organization but also had a licensed Bell Maintenance Station that allowed them to completely rebuild any helicopter manufactured by Bell-Textron in their facility, they also operated Commercial Turbine Inc., specifically for the Oil & Gas Industry, the turbine power plants for the helicopters or the gas transmission and processing systems were the same units and were totally interchangeable with minor modifications.

There are many other examples that present some very interesting potential for investigation. One is that the remote site computer systems used for pipeline relay stations and telemetry systems are the same units used in every military application for high impact rack mount specification from submarines to aircraft and radar systems, satellite relay systems are used over and over again to control remote compression and interchange system (each of these systems has a corresponding military nomenclature number even though it is a civilian application system under another name).

PETRO-CHEMICAL REFINING AND CHEMICAL PROCESSING

At this time this area offers the highest potential overall for technology transfer violations on a systems and sub-systems basis with ramifications at least as serious as those presented by the nuclear source materials although with a longer range of effects that would only be seen over a period of years. The nature of refining and chemical processing on an international

basis is such that globally a necessity for finished products is being brought to a head because of economics, the population explosion and the politics of feeding and providing a productive environment for severely disadvantaged third world nations. Here sometimes political expediency and manipulation by the companies providing the designs fabrication and construction of the facilities shortstop effective evaluation of the systems or sub-systems that make up an entire plant and as in other instances technology or devices are imbedded at a depth in the design matrix that often clouds the true cross technology utility issue. A major consideration for these facilities is the shortage of trainable or teachable national personnel, this requires that entire systems and plants be designed to utilize the fewest technicians possible.

These facilities provide tremendous opportunity for the offhanded export of technology that might not otherwise be considered overly important. Just as in the scenario with Mexico we must consider the status of the industrial complex in the Eastern Block. Literally all of the industrial complex of Eastern Europe has for fifty years plus been dedicated to the military complex, the manufacturing facilities there are also at least that old and no modernization has been utilized, advanced technology as it is employed by the United States does not exist on a large scale. Thus the Eastern Block Nations become an inadvertent secondary market for the designs and technology if not the actual equipment.

The Petro-Chemical Refining Plants are essentially a function of residence time in the system, temperature and chemical catalysts. These are an essential given for any refining process, the catch is that all of these systems are operated by COMPUTERIZED AUTOMATED CONTROLS for accuracy and monitoring of process. These controls are adaptable to any manufacturing or process systems application with only a moderate amount of reprogramming or the system can be fully adapted to another process by writing a task specific program. The AUTOMATED CONTROL EQUIPMENT itself is a primary target of great value that would accelerate the ability of any nation deficient in this technology to make significant advances in their industrial and military complexes. This area of technology involves not only automation through computerization but also the use of the newest high-speed math co-processors on the market to keep up with the continuous load of functions that any automated system is required to monitor, calculate and adjust in a process system operation. These systems are also the same computer circuits that compile co-ordinate and plot target viability for air-to-air and surface-to-air radar guidance systems for the United States Military. Currently available circuit boards that can be bought over the counter in Houston and most other cities with a good supply of computer vendors also provide the ability to alter the primary function of the system to any desired application. Specific chips may be purchased at several locations here that would provide an individual with the highest and most advanced systems.

Chemical processing plants involve the same automation systems as Petro-Chemical Refining Plants but are more task specific with the ability to be altered or modified for specific compounds that are to be blended. The key here is that these chemical process systems may be altered within a given category to use a different primary chemical constituency to manufacture any number of chemical compounds and may easily operate within the range of producing military application compounds after a relatively short change over from agricultural or pharmaceutical. In many instances the base equipment is not distinguishable as to the ultimate intent until an indepth analysis of the system and the feed stock constituents is evaluated (a primary example is the Libyan plant constructed by Germany).

There is also a significant situation that is not directly related to technology transfer but of importance in the area of manufacture of illegal drugs. Within the Southwest region alone there are approximately 11 facilities that produce the precursor and primary chemicals required for the processing of cocaine and other illegal drugs in that category. These facilities manufacture these chemicals as a primary resource for other industries where they are a legitimate need although there is the ability for these chemicals to be diverted through various means to make them available for the manufacture of illegal drugs. There are also several smaller facilities that produce these chemicals as a by product of their primary product stream, these smaller quantities are not tracked as rigidly as the larger streams because they are considered a waste product and are therefore potentially more accessible as a supply for those who would otherwise be faced with securing quantities from legitimate suppliers and then falsifying documentation to ship it out of the country.

CONCLUSION:

Although these areas cover a seemingly wide and diverse range of equipment only the applications are to the extreme, the equipment and technology itself is essentially the same. There are "specialty" designers and manufacturers that are specific to various segments of the industry but by and large the primary equipment we are concerned with here is in the following categories:

ELECTRONICS
HIGH SPEED CHIP DESIGN
COMPUTERIZATION
COMPUTER AUTOMATION SYSTEMS
TELEMETRY AND COMMUNICATIONS SYSTEMS

RADIOACTIVE SOURCE MATERIALS
ELECTRONIC NUCLEAR SOURCE GENERATORS

ROBOTICS
METALLURGY
COMPOSITE MATERIALS TECHNOLOGY

These areas of technical equipment advancement and manufacture are lead by companies in the United States, the field is really much broader than one might imagine limited only by the desired outcome for usage and application.

PROPOSAL:

An obvious solution to part of the problem is to develop a system whereby the equipment keeps up with the equipment, a STRATEGIC MATERIALS COMPUTER DATABASE that allows for management of information on various categories. This would require a knowledge of industry resources for the information, information is readily available but the sensitive information would require inside sources at each company being evaluated. Some companies systematically bypass accepted disclosure requirements to downplay the type and possible uses of equipment knowing the potential for conversion to other uses, this is largely an economic justification by management who make an acceptable risk evaluation to secure the bottom line. Then there is always one individual who will make an acceptable risk evaluation for their personal gain, this type of offer is not uncommon, and the money offered will generally get the attention of the standard head of household with 2.3 kids and a dog who is facing house notes, car payments and college tuition.

An example of this would be as in the situation with the **RADIO ACTIVE MATERIALS AND NUCLEAR GENERATING DEVICES**, the prerequisite information could be gathered in any number of ways and entered into the database for retrieval for example in the following manner:

- by Domestic Manufacturer
- by Domestic and Foreign Company User
- by Domestic and Foreign Company Operations Region
- by Client Country for Foreign Application
- by projected rig count
- by projected well density
- by projected tool run requirements
- by logistics requirements
- by utilization evaluation
- by Tool Type (radio active or Nuclear Generator)
- by Component Parts Identification
- by Quantity
- manufactured
- in storage
- shipped (domestic and foreign)
- in use (domestic and foreign)

This is an illustration of a simple information system to serve the purpose of identifying where this equipment originates, the sources of this information are much more complex and would involve gathering intelligence from no less than 10 primary source companies. A system of this type would be industry specific but also have the capacity to be cross referenced inter-relational with similar information data bases for where necessary. Ultimately information would be generated to provide an assessment of the

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total number of nuclear sources domestically or to develop the information that shows how many areas of the world outside of the United States where inordinate numbers of these items are stored with little or no apparent reason. As a model this information data base would be capable of being adapted for utilization on a fully inter-relational basis for any other category of cross technology application tracking in any equipment or material design and fabrication allowing a high degree of flexibility for assessment or analysis
.

The development of nuclear capability in some of the smaller nations has been accomplished by utilizing design modifications of the equipment discussed here. In the United States alone there have been substantial quantities of fissionable quality materials "misplaced" from some of the primary plants that produce plutonium and U-235 as a by product of their primary function. The countries in the Persian Gulf area have had access to the devices in question since the 1950's, and they now have a significant population educated in our universities and trained in their own oil industry to recognize the potential of this equipment and do something with it. Isreal, Lybia, India and Pakistan are good examples of this technology modification systems for their nuclear capabilities.

Currently equipment is manufactured in two configurations for specifics areas of operation, onshore tools are 4-5 inches in diameter and offshore tools are 2-3 inches in diameter to conserve weight in transport, the offshore tools are used internationally also because of ease of transport being much smaller.

ADVANTAGE:

When looked at from an overview perspective all that is generally seen of these various segments of the Petro-Chemical Industry is advanced systems that quickly boggle the mind of those who are not familiar with what is being attempted or achieved whether it be with electronics, computers, automation, refining of petrochemical products or recombinant chemical production. There is always a process at the core of any activity that is generally very simple but uses high-tech to accomplish the end result. The parts of this process are interchangeable across a wide variety of areas of desired outcome, therefor the technology is totally transferable from one process to another sometimes involving only moderate modification or alteration of the available equipment. With the proposed approach we back up to the categories of physics (theoretical, applied and nuclear), engineering and design, chemistry (organic and in-organic), manufacture and fabrication. There is a narrow reference of originating technology and primary resources to acquire any of this equipment or technology. With that understanding it is relatively easy to develop an evaluation and analysis model that would facilitate and greatly enhance the ability to monitor the utilization of sensitive technology. This model would be easily adaptable to any desirable cross technology transfer category and capable of being expanded to accommodate any number of primary or secondary vendors.

considered from this perspective, analysis and evaluation can be approached from a very direct model of how violations would be best and easiest to perpetrate:

* What is the intent? (what area is equipment or technology needed for primary gain)

* What is required? (what equipment is needed to produce or achieve the specific goal)

* What is available? (what equipment or technology is currently available that is suited to conversion or modification)

Add to this the potential for from where solicitations of possible violations might be initiated, and the degree of difficulty and exposure that might be acceptable. This criteria might appear as follows:

* Who wants what? (List by foreign country or entity various technologies or equipment that would be desirable to acquire)

* What are their resources? (list according to internal resources where equipment is already existent in the host country and external resources where equipment would have to be acquired for import overtly or covertly)

* Is the equipment or technology controlled for export?

* If not, should it be? (Is the equipment or technology convertible or alterable to cross technologies that could be against the interests of the United States on a security or strategic basis, overtly or covertly.

Key elements of any category may be utilized for analysis and evaluation, evaluation criteria can be constructed to highlight abnormal circumstances or material movements outside of known and established operational and supply perimeters. the information developed establishes documented beginning points for initiating investigations of potential violations and validates any probable cause prerequisites.

DISADVANTAGES:

Establishing this system is by no means a replacement for human input from an investigation and enforcement standpoint. There are areas that would appear to be potential violations that may not be such due to variances in classification of equipment with the United States State Department. An example of this scenario is an opportunity that presented itself some months ago. A Multi page listing of military application equipment was presented by a

representative" of the Iraqi government. The intent was to replace or repair significant segments of equipment captured during the Iran/Iraq War. There was some really sensitive equipment that they sought to acquire including dual capability high speed computer chips and a Phased Array Radar Antenna but for some reason it was determined not to pursue the project.

Unless a control is instituted to focus on specific areas of interest the system would, left to it's own ability to judge perimeters, create more potential investigations than three agencies have the manpower to handle. Developing criteria for areas to be investigated would take considerable effort on the part of the agency, a determination of what criteria would constitute target equipment or technologies, how deep into the structure of systems and subsystems would identification of components constitute a violation.

What guidelines are currently in place to establish criteria for determining a violation, what kind of equipment or technology is considered to be affected under "STRATEGIC" parameters, is there an ability to effectively establish a point of segregation between a system and a subsystem component that may be subject to controlled export conditions?